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ABSTRACT

By establishing its Outreach and Technical Assistance Network (OTAN) in 1989, California became the first state to spend substantial funds on building a technological infrastructure for adult education. OTAN's goals are as follows: foster communication among state officials, researchers, and local administrators, instructors, and staff in adult education; facilitate access to library and other information about adult education policies and practices; and provide technical assistance in introducing the use of technology to adult educators. OTAN's history may be divided into the following periods: (1) building the foundation (1989-1994); (2) building a communication and information system (1994-1997); and (3) enhancing the system (1997-1999). OTAN's staff has provided training and technical assistance to enable its subscribers to feel comfortable using technology and to become facile in accessing OTAN's various services and materials. To reach a variety of adult education programs throughout California, OTAN's staff has provided on-site training in regional resource centers and local programs. Work is under way to enhance OTAN's roles as a platform for furthering the use of technology and as a gateway to adult education resources worldwide. Copies of the OTAN user and nonuser surveys and seven graphics depicting use of an OTAN Web site are appended. (Contains 12 tables/figures and 10 references.) (MN)

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Connecting People, Practices, and Policies: Evaluation of the Outreach and Technical Assistance Network (OTAN)

February 2001

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Executive Summary

Overview of OTAN

With its investment in the Outreach and Technical Assistance Network (OTAN) beginning in 1989, the California Department of Education (CDE) was the first state to spend substantial funds in building a technological infrastructure for the field of adult education. The developers of OTAN envisioned an online system that would:

- Foster communication among state officials, researchers, and local administrators, instructors, and staff in adult education;
- Facilitate access to library and other information about adult education policies and practices;
- Provide technical assistance in introducing the use of technology to adult educators; and
- Serve as a platform for future applications of technology in adult education.

Originally supported with monies under the Adult Education Act and most recently with funds under Title II of the Workforce Investment Act of 1998, OTAN initially was administered by the Hacienda La Puente Unified School District and in 1994 became a project of the Sacramento County Office of Education. For the past decade, OTAN has functioned as an online communication network delivering services in three key areas: electronic communications, information and referral services, and instructional technology. As the state of technology has advanced, OTAN has extended its system to incorporate new tools and information that have enabled the system to move beyond its original intent.

Abt Associates' Evaluation

As OTAN began its third contract period in 1997, the CDE and OTAN's director recognized the need to examine the quality of online services that were being offered through OTAN and their effect on adult education practitioners, policymakers, and programs. In order to document the history and development of OTAN as well as answer the critical questions about its implementation and use, the Sacramento County Office of Education contracted with Abt Associates in Bethesda, MD to conduct an evaluation that would examine:

- The quantity and perceived quality of the services and materials that OTAN has produced;
- The ways in which staff in local adult education agencies have utilized OTAN;
- The effects of OTAN's services on adult education program operations, staff, and policy development; and

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- The ways in which OTAN's experience can inform further development of online services and products.

Abt Associates' research team chose a multi-method approach for the evaluation that included: the review of existing information about OTAN's historic development and use of services, and the collection of new data about the perceived quality and use of OTAN's services. This gathering of data involved the conduct of three surveys, telephone interviews, and face-to-face interviews, as well as the review of OTAN's online services, reports, and other documents related to its history and implementation. The data collection period for the evaluation was from May 1997 through June 1999.

OTAN's Development

Phases of Development. OTAN's development has been a phased process that began in 1989. Since its inception, OTAN's activities have helped to transform the state-of-practice in adult education in the state of California from limited or no access to computers for communication and information retrieval to high access. This transformation has occurred in three phases:

Building the Foundation: December 1989-January 1994. During this period, OTAN's staff established an electronic network, provided staff development to local adult education agencies to access and use the network, identified and developed information resources for retrieval from the network, and conducted outreach to promote the use of OTAN among adult educators;

Building a Communication and Information System: February 1994-March 1997. As the number of subscribers and the ways in which they used OTAN increased, OTAN's staff focused on improving the quality of the technical system and the information stored on the system. A number of technical upgrades that staff made during this period resulted in a more powerful and easier-to-use online communication and information system. Some of these upgrades expanded the types of communication that subscribers could undertake, such as the installation of the software to host online Email discussions as well as software to provide online multimedia content. In addition to the provision of ongoing training and technical assistance, OTAN's staff conducted targeted staff development to expand the capacity of key system users, such as adult education agency administrators and Regional Resource Center managers. The expansion of the library of online materials continued, as did the establishment of linkages with other online systems. To enable local agencies to be more systematic in their use of technology, OTAN offered technology planning and implementation workshops to adult education providers.

Enhancing the OTAN System: April 1997-June 1999. During this period, OTAN's staff made a number of changes in the system to respond to state policy shifts as well as subscribers' needs. OTAN continued to improve the communication and information system, provided additional training and technical assistance, further enhanced the information and reference services, and offered outreach and assistance to support technology planning. Shifts in state policy prompted OTAN to adjust the electronic communication system in three ways:

- To provide free email accounts to agencies receiving state adult education monies;
- To transition out of the business of providing both Internet access and Email, because of the increased number of OTAN subscribers who no longer relied on OTAN for those things; and
- To refine OTAN's Web site to include all components of service.

Other new developments during this period included the piloting of online staff development in conjunction with the state's staff development provider, the development of multimedia programs, and the expansion of partnership with entities such as CNN to provide online adult learner instruction. In January 1999, OTAN's released the redesigned Web site. In addition to the no-cost registration feature, it has an online User Guide to assist inexperienced visitors, a Java-based pull-down menu system, a new home page, a redesigned Round Table area, and an expanded area called "OTAN For Teachers."

Summary. Since its inception, OTAN's staff have used state-of-the-art technology to create an electronic communications and information infrastructure for serving adult educators. OTAN's development has been both methodical and iterative, initially building a foundation for the infrastructure, then expanding the types of services and products available in its system, and most recently expanding the capacity and linkages of the system. What began as a special project to serve adult educators in California developed into a national resource for linking people and information electronically.

Four features have characterized OTAN's evolution:

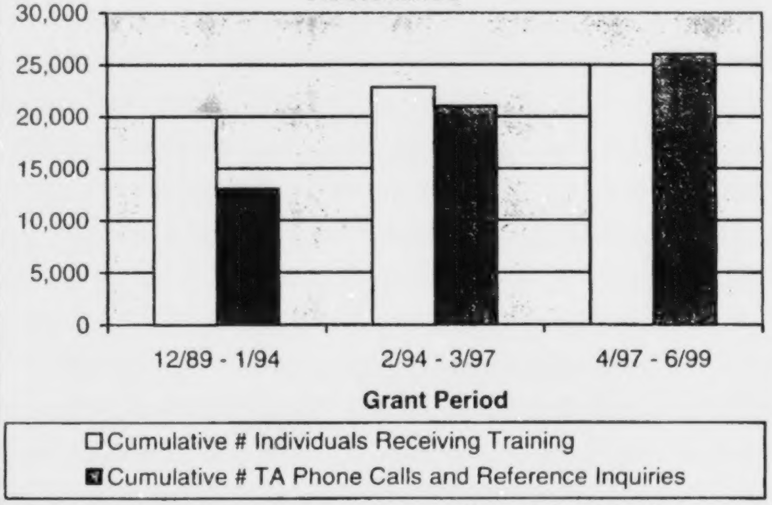
- Use of state-of-the-art technology to create and refine the communication system and provide services, including ongoing updates to the hardware and software that have allowed for expansion and efficiency;
- Provision of technical assistance and training using a variety of modalities to support all levels of adult education program staff, state policymakers, and others in accessing and using OTAN;
- Development of different communication vehicles for fostering information sharing, building collegial relationships, and improving adult education practices; and
- Creation of an information base that includes the development of new materials, gathering of existing information, and the linking with other databases to provide resources for adult education program management, instruction, training, and policy development.

In undertaking these activities, OTAN's staff have worked to provide quality services in a timely manner that have enabled adult educators to access OTAN and have increased the capacity of these individuals to use computers. The data that Abt Associates' research team collected indicated strong customer satisfaction with the assistance that OTAN has provided, as well as with OTAN's gradual expansion of materials and assistance to support the system. This satisfaction may be attributed both to the methodical approach that OTAN's staff used in developing the system, as well as to the staff's attention to the need for ongoing system refinement, materials creation, and customer support. This approach has resulted in a system with a wealth of resources that can be used in a myriad of ways to improve adult education services.

Technical Assistance and Training

A critical element in the development of OTAN has been the training and technical assistance that staff offered to support the dissemination of the system and encourage its use. The assistance that OTAN provided not only enabled local adult education program staff to become familiar with the online system and its capabilities, but also played a critical role in building the capacity of these staff to use computers. OTAN's staff leveraged their training and technical assistance expertise by working with the Regional Resource Centers to deliver assistance to the adult education programs in their regions. OTAN's staff also collaborated with these programs in hosting training sessions that OTAN delivered. As a result of this systematic approach to capacity building, the staff from OTAN and the Regional Resource Centers delivered training to approximately 20,000 individuals over the three OTAN grant periods, as is shown in Exhibit 1. As more adult educators became familiar with OTAN, the staff continued to provide technical assistance so that by the third contract period, OTAN's staff had responded to more than 25,000 calls and reference inquires since the beginning of OTAN.

Exhibit 1: Training and Technical Assistance*



*Training and technical assistance were offered in conjunction with Regional Resource Centers.

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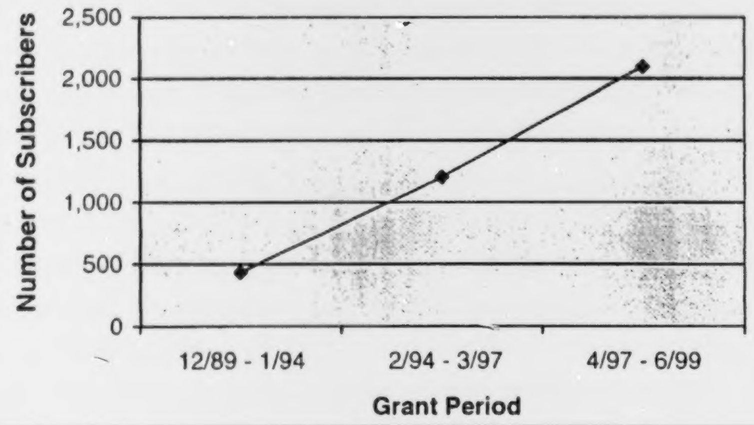
Through its technical assistance activities, OTAN's staff also have facilitated the work of special projects supported by the California Department of Education's Education Support System Division. These special projects have linked members of service provider groups, such as the library system, and have facilitated the work of curricular development projects. Thus OTAN has helped individuals as well as groups of individuals involved in development and assistance projects.

The Utilization of OTAN

As a result of OTAN's training and technical assistance activities, its subscriber base grew substantially over the three grant periods. As shown in Exhibit 2, OTAN had over 2,000 subscribers by 1999. A variety of factors influenced this growth, including the California Department of Education's requirement that each grantee receiving state Section 321 funding obtain an OTAN account, as well as the numerous dissemination activities that OTAN's staff conducted. In this evaluation, the OTAN subscribers whom we surveyed and interviewed expressed high satisfaction with the training and technical assistance they received as well as with the resources they were able to access. The key barriers to use were the quality of the local technology and subscribers' time to use the system.

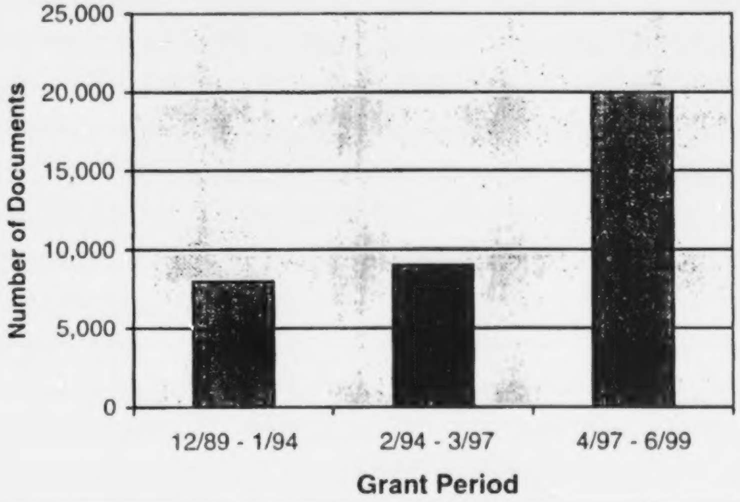
Exhibit 2: Growth of OTAN Subscriber Base



OTAN's primary goal was to establish a communication system that would link all stakeholders in the state's adult education system. Our evaluation data substantiate OTAN's achievement of this goal, particularly with regard to subscribers' exchange of information concerning administrative and compliance issues. The California Department of Education has facilitated this exchange by increasingly using OTAN to communicate with its grantees and to process materials, such as the approval of courses and the applications for state funding. OTAN has become the platform for information on key issues affecting the operation of state-funded adult education agencies.

As OTAN expanded its services, its role in promoting program improvement developed. In addition to posting course outlines and lesson plans created by California adult educators as well as research and library documents, OTAN became the gateway to instructional information available on the Internet. With the redesign of OTAN's Web site in 1999, general resources as well as those targeted to teachers were better organized and more accessible to subscribers. By 1999, OTAN's collection contained approximately 20,000 resource documents, as is illustrated in Exhibit 3. To promote subscribers' use of these resources, OTAN's staff have highlighted on the Web site key resources and activities both within state and nationally that can assist program staff in developing and delivering quality instruction.

Exhibit 3: Growth of OTAN Resources



While OTAN has great potential as a vehicle to support program improvement, this potential is still developing. In our interviews with program administrators, we found that many were involved in improvement activities and had accessed OTAN's resources to assist them. These activities included revising curriculum, implementing assessments, investigating new instructional strategies, and making changes to program policies and procedures. The administrators revised curriculum by accessing OTAN's resources such as Course Outlines, Lesson Plans, or the Round Table. Rather than creating new products, the information available through OTAN enabled administrators to build upon the work of others in developing their materials. They also accessed the Exchange or the Round Table areas to pose specific questions to other subscribers about their incorporation of different instructional materials and methods.

OTAN's capacity as a communication vehicle also facilitated administrators' program improvement activities. A common issue of interest was how technology can be used to facilitate student learning. OTAN's Exchange and Round Table areas were resources that administrators accessed to communicate with their colleagues about strategies for implementing technological tools. The Adult Ed and Technology Vendor Databases also provided helpful information about products and services related to the use of technology.

Staff development is a critical component of program improvement, and OTAN's announcements of workshops, conferences, and teleconferences provided timely information to administrators and their staff about opportunities to learn new practices. OTAN's materials also served as a source of information that staff could use in creating training events on topics such as strategies for using the Internet and developing lesson plans.

Another activity related to improvement in which OTAN aided administrators was program management. As adult education programs sought to expand their service capacity and incorporate the use of technology, staff needed access to the latest information about funding sources, legislative initiatives, and technology product development. Through OTAN, administrators were able to keep abreast of pending and new legislation, as well as a variety of public and private funding sources. OTAN was a virtual one-stop resource that was efficient to use and easy to access.

While administrators accessed OTAN in undertaking various improvement activities, teachers' use of OTAN for improvement purposes was less prominent. Many teachers are self-motivated and have incorporated OTAN's resources as a matter of practice, while others may need external direction to prompt their use. A strategy used by some state adult education programs to promote teachers' improvement activities has been to sponsor a statewide improvement initiative in which the transformation of teachers' practices has been the focal point. OTAN could play a vital role in such an initiative, both in providing information about new practices and in enabling teachers to share their experiences with each other.

As a communication and information platform, OTAN has provided both resources and mechanisms for exchange among adult educators. The staff also have linked California's adult educators to resources nationally to encourage the implementation of the best possible adult education services in the state. While OTAN can play a critical role in facilitating quality practice among adult educators, staff from the State Department of Education and local adult schools also need to be instrumental in fostering program improvement and OTAN's use in this process.

Future Directions

The California Department of Education broke new ground in funding OTAN, and it has been a unique service in the field of adult education. OTAN also served as a model for the National Institute of Literacy's development of LINCS--the Literacy Information aNd Communication System. At this stage of adult education policy and practice in California and nationally, OTAN has potential in serving two key roles: as a platform to furthering the use of technology and as a gateway to adult education resources worldwide.

Platform for Furthering the Use of Technology. OTAN has functioned as an information dissemination and communication base in addressing the needs of the California Department of Education and state-funded adult education programs. As these needs expand and as new developments in technology come online, OTAN has a key role in the following:

- Expanding its services in facilitating the California Department of Education's accountability and grants administration activities. As state-funded adult education programs submit their accountability data online, OTAN could promote the local use of these data for program management and improvement. By expanding its online training activities, OTAN could provide simulation exercises in using data that local program staff could access. OTAN also could stimulate subscribers' exchange of information concerning the ways in which student data and other program information could be analyzed and used for program purposes. As the California Department of Education revises and enhances its grants management processes, OTAN has a key role in disseminating this information and serving as a mechanism for data collection; and

- Disseminating new technology products funded by the U.S. Department of Education (ED). OTAN has been a collaborating partner in the development of the U.S. Department of Education-supported Cyberstep project. This project is one of three cutting-edge developments in online instruction, staff development, and assessment that ED has funded and which will be ready for national dissemination this year. As these products become available, there is a need to orient the field of adult education to the ways in which these products could be incorporated into ongoing program services. OTAN is well suited to serve as a platform for orienting adult education practitioners to the use of these products, as well as to linking practitioners to other resources that could support their implementation.

Gateway to Adult Education Resources. OTAN has a unique role to play in directing subscribers to the myriad of resources that can be accessed through its system. One critical use of these resources is in facilitating the delivery of quality adult education services. Two recommendations for OTAN's role in program improvement are:

- Revise the format for the submission of lesson plans to include sections regarding the teacher's theory or guiding principles and related instructional materials. The inclusion of information about the theory or principles will help others to understand the developer's instructional perspective in creating the lesson and how it might be applied. Information about related materials will guide others in selecting appropriate resources and applications that match the intent of the lesson; and

- Use a problem-based method to stimulate adult education practitioners' improvement of practice. Abt Associates' work with the statewide program improvement initiative in Pennsylvania--Project EQuAL--demonstrated that adult education teachers and program administrators are motivated to address the operational problems that impede their delivery of quality program services. Using the problem identification process as a stimulant, staff are able to analyze information and use resources to try new practices. OTAN could adapt the problem-based technique by posting common problems that adult education practitioners face in managing and teaching as a way of engaging practitioners in program improvement. OTAN subscribers could be directed to the appropriate online resources and documents that relate to the problems that are posted. While many documents are not written to provide direct solutions to program issues, the information in the documents could stimulate ideas and new directions. Through OTAN's Exchange and Chats functions, subscribers could share their solutions and suggest new practices. This process could serve as a starting point for adult education programs to use in addressing their operational issues.

These recommendations are illustrative of the potential that OTAN has for enhancing its activities in facilitating communication and program improvement. OTAN has a critical function in disseminating information from the California Department of Education and in facilitating the state's grants management process. Its role in obtaining documents and library resources also is expanding from a retrieval and storage function to a linking function. As a platform for technology, OTAN can direct subscribers to effective use and application of existing and new technological tools. As a gateway to information, it can guide subscribers in making informed choices regarding the variety of resources that are available to adult educators worldwide.

I. Introduction

Overview of the Evaluation

Impetus for the Evaluation. With its investment in the Outreach and Technical Assistance Network (OTAN) beginning in 1989, the California Department of Education (CDE) was the first state to spend substantial funds on building a technological infrastructure for the field of adult education. The developers of OTAN envisioned a technology system that would foster communication among adult education state staff, local adult education administrators, instructors, and staff; facilitate access to library and other information about adult education policies and practices; provide technical assistance in introducing the use of technology to adult educators; and serve as a platform for future applications of technology in adult education. Given the state-of-the-art of technology and its state-of-use in adult education in 1989, OTAN's developers chose an iterative approach in designing OTAN that would mirror the ever-changing developments in technology while moving the field of adult education toward a state of readiness for using this evolving tool.

As OTAN began its third contract period in 1997, the California Department of Education and OTAN's director recognized the need to examine the quality of the online services that were being offered through OTAN and their effects on adult education practitioners, policymakers, and programs. While OTAN had documented the amount of access to its services, it had collected only limited data about the implementation of these services and their perceived value and results. After almost seven years of implementation, the CDE and OTAN staff thought that much could be learned from OTAN's experience which could inform the delivery of online services as well as the design of future products and applications. Thus CDE and OTAN determined that a third-party evaluation should be procured to document the history and development of OTAN and to answer the critical questions about its implementation and use.

Purposes of the Evaluation. In May 1997, the Sacramento County Office of Education (SCOE) awarded a contract to Abt Associates Inc. to conduct an evaluation that had the following purposes:

- To identify the various users' perceptions of the quality of training and technical assistance they had received, as well as the quality and use of the resources and materials they had accessed;
- To examine the implementation of online services that had occurred and the perceived impact of the use of these services on staff capacity and program operations; and

- To identify the state policies and guidance that may be needed as OTAN's services and products expand, as well as lessons that the Federal adult education offices and other states might consider in funding and expanding the use of technology in the field.

In specifying these purposes for an evaluation, OTAN's staff wanted to determine the extent to which their goal of developing an online communication system whereby adult educators in the state of California had the skill and capacity to access and share information had been accomplished. They also wanted to understand the ways in which OTAN's subscribers had utilized its services, and how these services might be improved. Finally, as OTAN's staff moved forward in developing new applications, they wanted to know how OTAN could best serve as a platform for their ongoing development and use of technology in adult education.

Evaluation Approach and Methods

Framework for Data Collection. In order to address the three purposes of the evaluation, Abt Associates' research team designed a framework for data collection based on the three components of OTAN's services: electronic communications, information and referral services, and instructional technology. The questions that guided our inquiry in each component are the following:

- **Electronic Communications**: What types of training and technical assistance have been provided, to whom, and by whom? What is the perceived quality of these services? To what extent have the electronic communications services been expanded and utilized? What is the perceived impact of these services? What factors have facilitated or impeded the use of these services, and what might be done to increase their use?
- **Information and Referral Services**: What types of services have been offered and to whom? To what extent have these services been expanded? What has been the perceived utility of these services?
- **Instructional Technology**: What types of materials have been developed? What is the perceived use of the training and technical assistance that has been provided? What factors have facilitated or impeded the use of materials? In what ways have the various online services and materials been integrated into an adult education program?

As the main types of services that OTAN provides, these components encompass a variety of activities related to materials and system development, training and technical assistance, and refinement and revision. While the framework for the evaluation had to reflect the types of services that OTAN carried out, it also had to account for the process activities that OTAN performs in developing and delivering its services. Thus we designed an approach to studying OTAN that took into consideration both of these aspects of its history and implementation.

Methodology. Abt Associates' research team chose a multi-method approach to address the three purposes of the evaluation that included: the review of existing information about OTAN's historic development and use of its services; and the collection of new data about the perceived quality and use of OTAN's services. This gathering of data involved the conduct of three surveys, telephone interviews, and face-to-face interviews, as well as the review of OTAN's online services, reports, and other documents related to its history and implementation. We collected data from multiple stakeholders, such as local program providers and administrators, state officials, Regional Resource Center staff, OTAN staff, and others who used services, developed materials, and provided technical assistance and training. We also gathered information using an online method to test the capacity of the technology in this regard.

This approach was designed to produce cross-sectional as well as longitudinal information. Our intent was to develop a comprehensive view of OTAN's past and present so that we could formulate recommendations for guiding its future. The data collection activities that we undertook were the following:

Surveys:

- Conduct of surveys (1997-1998) of 910 subscribers, of which there were 353 respondents (a response rate of 39 percent) -- 252 of whom completed the User Survey and 101 completed the Non-user survey (respondents for the Non-user survey were determined based on their self-reported minimal or non-use of OTAN);
- Conduct of a Follow-Up Survey (1999) of 226 participants in the 1997-1998 User Survey, of which there were 176 respondents (a response rate of 78 percent);

Interviews:

- Conduct of telephone interviews (Summer 1998) with 29 OTAN subscribers (18 administrators, four instructors, four special users, and three state officials);
- Conduct of face-to-face interviews (1997 and 1998) with state officials, OTAN staff, and Section 353 project directors;

- Conduct of focus group (1998) with Regional Resource representatives and key OTAN users;

Online Data Collection:

- Online posting of stimulation questions (1999);
- Online follow-up with OTAN trainees (1999);

Document and Product Review:

- Review of client and satisfaction surveys conducted by OTAN (1991-1999);
- Review of OTAN Evaluation Reports (1989-1999);
- Review of selected OTAN Work Group, News Postings, Course Outlines and Lesson Plans; and
- Review of Web and Other Usage statistics (1991-1999).

Copies of the OTAN User Survey, Non-user Survey, the 1999 Survey are presented in Appendix A. The array of data that we collected provided a thorough understanding of OTAN's approach and activities which we used in addressing the questions posed for the evaluation. These data also guided the recommendations that we have made for OTAN's future directions.

Organization of the Report

Section II presents the history and development of OTAN according to its three contract periods. Discussed in Section III is the use of OTAN as a communications network and as a resource for information. The training and technical assistance provided by OTAN is discussed in Section IV, followed by the conclusions and future directions that are presented in Section V.

II. History and Development of OTAN

This section summarizes the major milestones and activities in the development of the Outreach and Technical Assistance Network from its inception in 1989 to 1999. These activities are discussed in terms of the three time periods that reflect OTAN's contracts: 1) December 1989 to January 1994 (four years), 2) February 1994 to March 1997 (three years), and 3) April 1997 to June 1999 (two years).

Overview of OTAN

OTAN was created in 1989 as a critical component of the implementation of the California State Plan for Adult Basic Education, which was required under the Adult Education Act (AEA), P.L. 100-297 as amended by the National Literacy Act, P.L. 102-73. This State Plan was designed to address the long-term needs and goals identified by California's Adult Education Strategic Plan, which was prepared by the California Department of Education to guide the development and implementation of services for the state's adult education system. One component of the State Plan was the provision of training, informational, and technical support for agencies receiving Local Assistance Grants under Section 321 of the AEA. In response to this requirement, the CDE funded OTAN using AEA Section 353 monies as one of the projects that could provide these services and resources to literacy and adult education providers in California. Originally administered by the Hacienda La Puente Unified School District, OTAN became a project of the Sacramento County Office of Education in 1994.

Building the Foundation (December 1989 - January 1994)

OTAN's first four years were dedicated to building a foundation for an electronic communication and information infrastructure in California. Its activities were centered around four components: 1) establishing an electronic network, 2) providing staff development, 3) providing access to information, and 4) conducting outreach. Exhibit II-1 presents a summary of the key activities that OTAN carried out during each of its three contract periods. These activities are described below.

Electronic Network. In 1990, OTAN established an Online Communication System that electronically connected adult educators throughout California, allowing them to communicate with one another and access a wealth of information and online resources. Prior to OTAN's establishment, this type of electronic system did not exist. With the inception of OTAN, the California Department of Education encouraged adult education agencies receiving state funding (referred to as Section 321 or Section 321/326 funding) to purchase at least one OTAN account, since it was CDE's intent to use OTAN as the primary means of communication with its 321 agencies. Agencies also were prompted to use their 321 funding for investments that would enable them to access OTAN, such as computers and telephone lines.

Exhibit II-1
Summary of Major Milestones and Activities in OTAN's Development

	First contract: 1989 - 1994 (four year period)	Second contract: 1994 - 1997 (three year period)	Third contract: 1997 - 1999 (two year period)
Electronic Network	• The OTAN Online Communication System is established, featuring Email accounts and a Round Table discussion area. • OTAN contracts with Connect, Inc. to host OTAN Online and provide connectivity software. • There are 435 subscribers by 1994.	• OTAN Online is moved from Connect, Inc. to a more powerful Internet-based system. • OTAN creates a Web site and begins maintaining a dual system, with most communication features handled through OTAN Online and most information functions hosted on the Web site. • There are 1,200 subscribers by 1997.	• OTAN transitions to an integrated Web-based system. It ceases to provide subscribers with Email accounts and Internet access, those things being widely available elsewhere. • OTAN's redesigned Web site has many new features, including a free/open registration system. Six months after the release of the redesigned site, the number of users increases to more than 2,100.
Information and Reference Services	• OTAN develops principles for information sharing and identifies a national network of information sources. • The Forum area is created as an electronic repository for a variety of information. By early 1994 it holds nearly 8,000 documents. • OTAN establishes libraries of technology and documents, such as the Adult Education Archives and Educational Technology Centers.	• OTAN expands its network of information sources. The collections of the Forum, Archives, and other areas expand. The Forum increases in size to approximately 9,000 files & records • OTAN staff respond to more than 4,000 reference inquiries. A search feature is implemented on OTAN's Web site to help subscribers navigate the expanding collections.	• A number of improvements are made to the Forum area and it is expanded to include nearly 20,000 files and records. • OTAN revises its Document Processing Manual, covering internal procedures and policies for preparing information for the Forum. • OTAN staff respond to more than 3,300 reference inquiries.
Training and Technical Assistance	• OTAN works with Resource Centers to provide nearly 1,000 technology-related training sessions to thousands of adult educators. Educational Technology Centers host additional hands-on training. • OTAN distributes paper User Guides and responds to several hundred telephone requests for technical assistance.	• OTAN offers several workshops and sessions, reaching more than 2,000 people. In addition, special groups of users, such as Resource Center Managers, receive specialized training. • OTAN staff respond to nearly 4,000 technical support calls, which range from issues related to installing OTAN Online to local hardware and software difficulties.	• OTAN offers 75 training workshops, reaching nearly 2,000 people. • OTAN staff respond to nearly 2,000 technical assistance telephone calls. With the shift to Web-based content, the calls become more focused on local problems (hardware, connectivity), and less related to installing and using OTAN Online software.
Outreach Activities	• OTAN provides increased access to adult education resources to areas of California that were under served. It helps establish the Tehama-Glenn Adult Literacy Consortium and the Adult Learning Channel.	• OTAN conducts a survey of adult education programs in 1995 to better understand their technology needs. OTAN addresses needs identified via the survey by assisting programs with developing technology plans, selecting software, and implementing networks.	• OTAN continues providing assistance for networks, planning, and software. It also conducts a follow-up technology survey in 1998, establishes an Adult Ed Technology Vendor database, and a partners with other agencies to establish an online resource for teacher training.

To facilitate the use of OTAN, agencies were allowed to spend Section 321 funds to pay for the one-time $99 OTAN subscriber fee and the monthly access fees charged by Connect, Inc., the company that initially hosted OTAN Online. Access fees consisted of a $12/month charge for an hour of online time, as well as $14/hour for each additional hour, prorated to the minute.

Subscribers accessed OTAN Online by dialing into Connect's servers using a computer modem connected to a telephone line. The software that subscribers used to connect to OTAN Online was purchased from Connect and rebundled by OTAN, which also gave subscribers a customized user manual and an installation video.

Initially, the most widely used feature of OTAN Online was the Email system, which allowed subscribers to communicate quickly with adult education colleagues and CDE staff, who also had OTAN accounts (OTAN, 1994). The system's group addressing feature allowed OTAN and CDE staff to send messages to various combinations of users: all users, all California users, or all users receiving Section 321 funding.

To further encourage communication and collaboration, OTAN established the Round Table area, which consisted of workgroups dedicated to particular topics or projects. Each workgroup had a message area where subscribers could share messages, post questions, and exchange files. Some workgroups were open to all OTAN subscribers, while others were accessible only to certain individuals. Early workgroups included the ESL Teacher Institute's Mentor Teacher Training Program, the Comprehensive Adult Student Assessment System (CASAS), and the Adult Leadership Training Program.

While Email and the Round Table workgroups were the major components of OTAN's communication system, the crux of its information storage and retrieval system was the OTAN Forum, established in 1990. The Forum consisted of text files in a searchable database that was housed on a Connect Inc. server. To make these electronic resources available on the Internet, the Forum was duplicated on a Gopher[1] server at Hacienda La Puente School District. The Gopher version of the Forum was run parallel to the Connect version until the first OTAN Web site was established in 1994. Later, the Gopher version was discontinued and moved to an OTAN Web server when the Web became more prominent. The Forum is described in greater detail in the "Accessing Information" section.

During OTAN's first years, Email and the Internet were relatively new phenomena, used mainly on college campuses and in government agencies. The system that OTAN created was, for most subscribers, their first exposure to electronic communication and information retrieval. Therefore, the introduction of this technology required that OTAN's staff conduct a considerable amount of training and technical assistance. OTAN anticipated and responded to this need by creating paper User Guides (available for Macintosh and DOS/Windows platforms), conducting training workshops (see "Staff Development" below), and providing free and unlimited technical assistance over the phone. By 1994, technical support staff were responding to more than 150 phone calls per quarter (OTAN, 1994).

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[1] A Gopher system is a simple client-server protocol that connects users to text files, downloadable files, file searches, or to other menus. The Gopher application was very easy to use and thus very popular in the early 1990s, but has since been eclipsed by the World Wide Web as the leading interface for navigating the Internet.

By its fourth year, OTAN had 435 subscribers. Of these, 239 were from California's Section 321-funded agencies, 82 were from other California agencies, and 57 were guest users from other states.

Staff Development. When OTAN established its electronic network in 1990, computers were considerably less prevalent in adult education settings than they are today. Although data are not available describing levels of technology use during the early 1990s, a 1993 report by the U.S. Office of Technology Assessment estimated that no more than 15 percent of programs serving adult learners were regularly using computers for instruction (U.S. Congress, 1993). Recent surveys (OTAN, 1998a; Hopey, 1996) have indicated the increase in use of computers for both instructional and administrative purposes in adult education. However, due to the relative novelty of Email and the Internet in the early 1990s, very few adult educators in California regularly used Email or accessed the Internet prior to the establishment of OTAN. Therefore, training and technical assistance were key priorities for OTAN. Not only did subscribers need technical knowledge to access and use OTAN Online, they also required a level of comfort and confidence with computer use in general in order to maximize the utilization of OTAN's online resources.

OTAN worked with 11 Regional Resource Centers[2] to provide training and technical assistance to practitioners across the state. Each Center had responsibility for offering services that reflected the needs of the region it served. Resource Centers conducted their own needs assessments to determine the types of assistance that local agencies needed. During OTAN's first four years in operation, a total of 923 staff development activities were organized for nearly 20,000 participants, and Resource Center staff responded to more than 13,000 technical assistance queries over the phone or online. The types of training offered varied by region, but overall the most popular sessions were related to technology--using productivity software (word processing, spreadsheets, etc.) and using OTAN Online (OTAN, 1994).

In addition to providing training and technical assistance, OTAN worked with the Resource Centers in hosting and promoting professional development activities in collaboration with other organizations. For example, the Centers hosted CASAS training meetings, Adult Literacy Instructor Training (ALIT) Institute sessions, training sessions for Job Training

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[2] Eventually, the number of Resource Centers was reduced from 11 to seven due to a reduction in state resources. The number later increased to eight. The Resource Centers operated through June 30, 2000.

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Partnership Act (JTPA) providers, and regional Youth, Adult, and Alternative Education Services (YAAES) division meetings.

Training also was made available though the two Educational Technology Centers (ETC)[3] that OTAN created. The ETCs were established primarily to assist adult educators in making informed choices about investments in instructional technology. Because they contained computer equipment and software, the ETCs became logical places for hands-on training. During 1990-94, the ETCs provided more than 3,500 hours of technology-related staff development for adult educators.

Accessing Information. OTAN's third major charge was to provide informational resources for adult educators and other interested stakeholders. To accomplish this, OTAN developed principles for information sharing that guided the formation of a national network of information sources. These principles were:

- Instant access to information--the latest research, program innovations, curriculum, instructional materials, and resources must be instantly available to California adult educators to provide them with the tools to meet the current challenges;
- Statewide/national network--must be maintained for cost effective, efficient sharing of information;
- Utilization of the latest technological advances--the information accessing effort must be on the cutting edge in utilizing the latest technological advances; and
- Preservation of the reports and products of past efforts--the reports and products of past efforts must be preserved so today's adult education practitioners, researchers, and policymakers can build on the successes of their predecessors and avoid their mistakes.

Information Sharing and Acquisition. OTAN staff developed and maintained relationships with several organizations and agencies across the state and nation for sharing adult education resources. OTAN's national network included:

- U.S. Department of Education-- Office of Vocational and Adult Education and Office of Educational Research and Improvement;
- ERIC Clearinghouses;

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[3] Originally, the two ETCs were located in northern and southern California. They were later consolidated into one Center, located at OTAN's central office in Sacramento.

- Professional associations, such as Teachers of English to Speakers of Other Languages (TESOL), American Association of Adult and Continuing Education (AAACE), Association of California School Administrators (ACSA), and others;
- Centers and clearinghouses, such as the National Center on Adult Literacy (NCAL), National Center for Family Literacy (NCFL), and others;
- Other federally funded adult education projects in California, including CASAS, Adult Education Institute (AEI), Adult Literacy Instructor Training (ALIT), and others; and
- Private programs and agencies, such as the Business Council for Effective Literacy and California Literacy.

Beyond this network, OTAN used several methods to acquire relevant information for its subscribers, including reviewing the *Federal Register* for grant information, monitoring newsletters and reports, attending regional, state, and national conferences, and subcontracting for specialized information services such as California legislative updates. OTAN's staff also shared information with other online communication systems, including CAVIX (California Vocational Information Exchange), ED>NET (Economic Development Network), NCBE CIS (National Clearinghouse for Bilingual Education Computer Information Service), and FEDIX (Federal Information Exchange).

Most of the information that OTAN's staff obtained was posted to the OTAN Forum, the online repository of electronic documents and databases. The Forum consisted of several sub-areas, including the following:

- Reference Areas
  - Lesson Plans
  - Course Outlines
  - Current Documents
  - Curricular Resources
  - Software for Macintosh and DOS platforms (public domain and demo software)
  - Library and Clearinghouse Listings (including VESL/Workplace Clearinghouse)
  - Codes and Regulations; and

- Topical Areas
  - Master Calendar (events in adult education by date, region, topic)
  - CDE Info (notices and directory information from CDE)
  - OTAN Resource Centers (training activities, lists of library holdings)
  - Legislative Information (notices regarding adult education-related legislation)
  - Educational Grants (federal and private funding opportunities)
  - Who's Who (directory of OTAN subscribers, California 321 agencies and staff, etc.)

These Forum areas were identified after OTAN's staff conducted a needs assessment of potential users, and were validated by several subsequent user surveys. By 1994, the Forum contained nearly 8,000 separate documents that subscribers could access in two ways. First, they could search summaries of the documents by entering keywords that described the topics they were trying to access. Second, they could simply browse through each of the Forum's sub-areas.

Electronic Storage and Retrieval of Information. After OTAN's staff identified information appropriate for the Forum, they had to prepare the material for electronic storage. This preparation involved several steps. First, information was evaluated for its permanency. Information that was ephemeral and time-sensitive, such as grant alerts and meeting notices, went directly to document processing, while permanent and non time-sensitive information like curricula and research reports were cataloged into a MARC[4] compatible database. During document processing, electronic documents were converted into text only (ASCII) format and print documents were scanned and later formatted with word processing software. After documents were prepared, they were uploaded into the appropriate Forum area. Occasionally, Email messages were sent to subscribers to alert them to significant new additions. During its first three-and-a-half years, users opened online Forum documents more than 73,000 times (OTAN, 1994).

Other Resource Collections: Hardcopy and Technology. OTAN developed a number of collections in addition to its key reference and topical areas. For example, each Resource Center had a Library containing training modules, instructional materials, videos, and other documents. During the Centers' first three years in operation, library materials were accessed more than 12,000 times by adult educators. The OTAN central office supported the Resource Centers by cataloging deposited items and providing technical assistance as needed.

OTAN also developed the Adult Education Archives--an historical collection of handbooks, reports, research findings, curricula, and staff development and assessment materials. OTAN's staff collected and cataloged these materials, posting abstracts in the Forum for subscribers to browse through or search. By early 1994, the collection had grown to more than 500 items, which included California Department of Education handbooks and research reports, as well as products from state-funded curricula, staff development, and assessment projects.

The libraries at OTAN's Educational Technology Centers featured a variety of instructional technologies, including hardware, software, computer manuals, and computer peripherals. The ETCs allowed adult school personnel to examine software and hardware before deciding which to purchase. OTAN's staff offered several hands-on software reviews and were available to answer specific questions about the products. By early 1994, OTAN's had cataloged more than 400 ETC Library items.

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[4] MARC = Machine-Readable Cataloging format. MARC is the international standard for entering bibliographic records in a computer database. Using the MARC format assures that a library database can be integrated with any standard library service or search system.

The increasing number of limited-English-proficient (LEP) adults offered new challenges for California's vocational educational programs and workplaces in the 1990s. To address this need, OTAN worked with the San Diego Community College District to establish a California VESL/Workplace Clearinghouse. The purpose of the Clearinghouse was to acquire, publicize, and distribute vocational educational materials for LEP adults. In its initial year-and-one-half in operation, the Clearinghouse maintained 151 items and filled 333 orders.

Outreach. For its Outreach component, OTAN attempted to increase adult educators' access to services and resources in areas of California that were underserved due to a lack of funds and/or geographic isolation. For example, OTAN provided technical assistance to help create and support the Tehama-Glenn Adult Literacy Consortium, also known as Project Adult Learning (PAL). The Consortium's primary purpose was to extend educational opportunities to geographical areas that were previously unserved. It represented a cross-agency collaboration that offered expanded services to key target groups (e.g., displaced workers, AFDC recipients) in a variety of modalities (e.g., home-based instruction, computer-assisted instruction with laptop and networked computers).

OTAN also entered into a partnership with the Educational Telecommunications Network in Los Angeles County to create the Adult Learning Channel, a mechanism to provide staff development activities to adult educators throughout California via satellite. In addition to helping produce the Channel's programming, OTAN coordinated activities at downlink sites and promoted the events with mailings and online postings. An estimated 300 educators participated in the training.

Building a Communication and Information System (February 1994 - March 1997)

OTAN's period of operation from 1994 to 1997 was characterized by sharp increases in the number of subscribers and their use of OTAN. The OTAN system also continued to evolve. Several technical upgrades and improvements resulted in a more powerful and easier-to-use online communication and information system. Through its training and technical assistance, OTAN demonstrated how the integration of technology can strengthen communication and collaboration. During this period, OTAN's activities were focused on three areas: 1) electronic communication, 2) information and reference services, and 3) technology planning and implementation.

Electronic Communication. In 1995, OTAN implemented a major change by transitioning from an outdated communication system to a more powerful and manageable Internet-based system. Previously, subscribers accessed OTAN through a proprietary system (Connect, Inc.) that was relatively costly given its limited features and slow speed. It became clear that an Internet-based system, located at OTAN's offices and maintained by OTAN staff, would be necessary to implement all the communications and information features that subscribers needed.

As a result of the changes that OTAN made, subscribers could access the new Internet-based OTAN Online through a customized version of FirstClass® software from SoftArc, Inc. This version supported OTAN's primary features--Email, Round Table work groups, information retrieval systems--in addition to several other features that were not possible on the Connect, Inc. system. These included access to electronic list servers, news groups, chat groups, and downloadable software. Versions for both Macintosh and IBM-compatible computers were available.

In addition to implementation of the Internet-based OTAN Online, OTAN made a number of other improvements during this period, including:

- Installing a high speed Unix World Wide Web (WWW) server and related software;
- Developing an OTAN Web site (www.otan.dni.us), which provided another avenue for subscribers to communicate and find resources;
- Implementing a 100 Mbps internal local area network to facilitate quick access to both OTAN WWW and OTAN Online;
- Establishing a Wide Area Information Server (WAIS)[5], used to perform online searches of OTAN's electronic databases and documents;
- Installing Email list server software to host online Email discussions;
- Installing RealAudio and RealVideo software to provide online multimedia content;
- Implementing an online Web-creation system (WebGenerator) to allow novices to create their own Web pages; and
- Developing the Online Adult Education Course Approval (A22) system to facilitate the CDE adult education course approval process.

The improvements gained by moving to the Internet based First Class system, however, were counterbalanced by the inconvenience and confusion of creating a dual system--OTAN Online-

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[5] WAIS is a network information retrieval service that searches for key words or phrases in specially indexed files. Unlike Gopher, which searches files by their titles, WAIS engines search the full text of files and return a list of documents that contain the key word being sought. Most search engines on the World Wide Web use the WAIS method of search and retrieval.

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-continuing the tradition of the proprietary system for Email and online collaboration, and OTAN WWW--the Web site for the electronic files and databases in the OTAN Forum. While the text files of the Forum were maintained both on First Class and the Web site for a short transition period, the Forum soon moved exclusively to the Web in order to implement HTML[6] and relational database delivery of information. The software capability did not address OTAN's needs for several years. Until OTAN moved to one integrated system exclusively on the Web in 1999, subscribers had to use two software packages--both the Email software and an Internet browser--to access all the features of the system.

Growth in Subscriber Base and Usage. The 1994 to 1997 period also was one of tremendous growth for OTAN. The number of OTAN subscribers nearly tripled, from 435 in early 1994 to nearly 1,200 in early 1997. Forum documents were accessed nearly 140,000 times (compared with 70,000 times during the previous four years). Use of OTAN WWW--measured in "hits" that are actions on the Web site such as opening a page or downloading a document--also increased dramatically. From late 1995 to early 1997, the number of hits per month had risen from 9,600 to 229,000.

Three factors can explain this growth. First, computer hardware and software gradually became less expensive as the speed and ease of use increased, making is possible for more adult education programs to invest in the equipment necessary to access OTAN Online and WWW.[7] Second, OTAN's attention to both customer service and continuous improvement of its online systems resulted in high subscriber satisfaction, as evidenced in the results of user surveys that OTAN conducted during this time period (OTAN, 1997a). Third, the California Department of Education played an important role in encouraging programs to subscribe to and regularly use OTAN. As CDE realized that adult educators were accessing OTAN, it began including a space on its funding application for applicants to write their OTAN Online ID, implicitly encouraging applicants to have an OTAN account.

Technical Assistance and Training. With its changes and new features, OTAN had to update and disseminate its print and non-print training and manuals. These materials included Email, file uploading, address books, personal mail folders, OTAN Forum, and using the Web. OTAN also created a regular newsletter, which contained tips and answers to frequently asked questions.

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[6] HTML = HyperText Markup Language, the programming language used on the World Wide Web.

[7] A 1995 survey conducted by OTAN measured the level of technology use in adult education programs in California. It found that 98 percent of programs were using computers for administration, 83 percent were using them for instruction, and 78 percent were using them for electronic communication.

OTAN continued to provide a variety of staff development and technical assistance. During this three-year period, 2,299 people completed in OTAN workshops and 466 participated in classroom training sessions (OTAN, 1997a).

OTAN's staff also responded to nearly 4,000 technical support calls (OTAN, 1997a). Although most calls were related to installing and using OTAN Online or navigating OTAN WWW, several concerned more general problems, such as accessing the Internet, solving a modem problem, or deciding which hardware or software to purchase. For some subscribers, particularly those in small programs without technical staff, OTAN had become the primary source for assistance and advice about computer-related issues. The written Client Satisfaction Surveys conducted by OTAN during this period revealed a very high level of satisfaction with OTAN's technical assistance.

OTAN was proactive in offering technical assistance. For example, after monitoring the use of OTAN Online, staff would conduct telephone interviews with subscribers who appeared to have problems connecting to the OTAN Online. To provide another avenue of assistance, OTAN created a database-driven online Help Desk on OTAN WWW, offering solutions to common problems 24 hours a day.

One of OTAN's goals was to develop as much technical expertise as possible at the local agency level, so that subscribers would be able to assist new and future users. While the training and technical assistance that OTAN offered were accomplishing this to a certain extent, the staff created Online Academy workshops to further increase local agencies' capacity to provide assistance in their regions. The 60 hands-on Academy workshops that OTAN conducted were provided to nearly 1,000 users. OTAN also continued to use statewide conferences to promote itself. OTAN's staff gave 28 presentations throughout the state, reaching an additional 1,000 individuals.

In addition to the Online Academy and general OTAN training sessions, OTAN identified three special populations that required targeted staff development:

- Round Table Work Group Managers. OTAN designed training and reference materials specifically for the subscribers responsible for managing and leading special interest Work Groups. Examples of Work Groups included LAES (Latino Adult Education Services) and SCLLN (Southern California Library Literacy Network). OTAN's staff provided customized training to 23 work group managers and offered training and assistance to representatives from 30 new adult education work groups;
- Regional Resource Managers. Since part of the Resource Centers' mission was to provide training and assistance to practitioners for using the OTAN Online communication system, OTAN conducted training for the managers to enable them to provide assistance; and

- Section 321 Program Administrators. After consulting with the CDE, the Staff Development Institute (SDI), and others, OTAN's staff identified training needs particular to administrators. To address these needs, they developed six multimedia training packages for administrators. Topics included "Using the Adult Education Handbook," (a guidebook to help administrators understand and comply with state regulations) "Funding Technology," "Making Connections," "Special Education," "Technology and Leadership," "World Wide Web," and "Workforce Online."

Information and Reference Services. OTAN maintained relationships with the agencies, projects, clearinghouses, professional associations, and organizations that comprised its California and national informational network. In addition, OTAN's staff attended 44 conferences and monitored 150 print newsletters. It also contracted with Frost, Davis, & Donnelly to provide updates on adult education-related legislative activities. The information collected through these various sources helped to maintain and enhance the OTAN Forum, which increased in size from 35 MB to 51 MB during this three-year period. The WAIS keyword search engine implemented on OTAN WWW allowed users to more easily navigate this growing body of information.

OTAN's California Adult Education Archives also continued to grow. Several more materials were cataloged, bringing the total to 666 items. A California Adult Education History Web site was established, giving subscribers the ability to search the Archives; view vignettes from an adult education video; view portions of a CDE adult education history report; and access information about the California Adult Education Oral History Project.

In addition to the electronic resources that OTAN maintained in its Forum and Archives, it added 97 links on its Web pages to other adult education Web resources. Links to hundreds of other electronic information sources were imbedded in documents provided on OTAN WWW.

OTAN continued its relationship with the Regional Resource Centers, providing centralized acquisitions, cataloging, and technical assistance. Each Center maintained a collection of approximately 600 items that were searchable via the OTAN Forum prior to 1996. When the Centers established their own WWW home pages in 1996, OTAN helped them to improve their access to the bibliographic records of the collections by creating an online searchable database.

To further serve the information needs of practitioners and researchers, OTAN maintained two unique reference collections in its Sacramento office--the Adult Education Reference Collection and the Educational Technology Collection. By 1997, these collections contained 956 and 1,293 items, respectively and were searchable on OTAN WWW. OTAN's staff responded to more than 4,000 reference inquiries, about a quarter of which required significant research to fulfill.

Reference inquiries to OTAN usually related to finding information on the OTAN Forum. The following are illustrative examples of actual requests:

- An adult school vice principal needed information on adult education services for women to prepare for testimony before a legislative committee;
- A CDE consultant asked for copies of prior staff development survey forms used by projects in California before preparing a new form;
- An adult school principal requested statistics on adult literacy in California;
- A contractor with CDE needed information on the background of distance learning in adult education before proposing new initiatives;
- A potential student requested help with the best way to use the Internet to locate vocational schools in Fresno;
- A teacher asked for a list of software titles concerning students with learning disabilities;
- A leadership project staff person needed references on telecommunications in ESL in preparation for writing an article; and
- A teacher wanted information on portfolio assessment.

California's welfare reform activities led to a greater demand on adult literacy and job training programs to serve CalWORKs[8] clients. OTAN supported the circulation of curriculum and model program materials through the VESL Workplace Clearinghouse and Employment Training Network Library. The number of cataloged items in the VESL Workplace Clearinghouse nearly doubled during the three-year period from 151 to 284. Practitioners could access the Clearinghouse by using a catalog (in both print and electronic form) that OTAN updated twice a year. The Clearinghouse continued to be the sole distributor of non-commercial vocational ESL materials in California. CDE established the Employment Training Network (ETN) using federal JTPA funds, which provided assistance to JTPA-funded projects in California. OTAN assisted the ETN by developing and hosting its Web site, which included an online search engine for the ETN Library of job training resources. By 1997, the ETN Library featured a collection of about 2,000 books and 200 videos that were loaned to JTPA-funded agencies free of charge.

Technology Planning and Implementation. Early in 1994, OTAN initiated a process of providing technology planning and implementation assistance to Section 321/326 agencies. To better understand their needs, OTAN conducted a survey of these agencies in 1995. It revealed that while most programs were using computers for instruction, administration, or communication, just 17 percent had developed a technology plan. Eighty percent of the respondents expressed a need for a technology plan.

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[8] CalWORKs is the California program under the federal Temporary Assistance to Needy Families (TANF).

OTAN responded by providing a wide range of training and technical assistance to programs. A total of 142 seminars was held from 1994 to 1995, covering topics such as planning for the use of technology, selecting software, and integrating technology into the ESL or ABE classroom.

By early 1996, OTAN's staff realized that another critical issue for programs--computer networking--would require their technical assistance. They provided seminars on topics such as local area networks, Internet connectivity, and distance learning. The topic of distance learning sparked the interests of many practitioners, who subsequently requested OTAN's assistance with Internet-based learning, home-based instruction with video, laptop check-out programs, and other uses of technology.

Enhancing OTAN's System (April 1997 - June 1999)

This period featured significant shifts in policy that redefined OTAN and some of its roles. OTAN also conducted a variety of activities, including improvements and upgrades to the communications and information systems, the provision of additional training and technical assistance, further enhancement of the information and reference services, and outreach and assistance to support technology planning. Its activities were focused in three areas: 1) electronic communication, 2) information and reference services, and 3) instructional technology.

Electronic Communication. Three important policy and programmatic changes were made during this period that redefined OTAN's electronic communication system:

- To encourage additional electronic communication, CDE decided to provide free Email accounts to local programs receiving Section 321/326 funding. The number of free accounts that a program received was related to the number of learners it served. This policy was implemented in July 1998;
- CDE agreed to transition OTAN out of the business of providing both Internet access and Email. The decision was based on the recognition that local agencies had greatly enhanced their use of computer technology in recent years and that the vast majority had access to the Internet, either through their host institutions (community colleges, school districts, etc.) or private providers (America Online, Earthlink, etc.). The results of a 1998 technology survey that OTAN conducted of California adult education programs supported this decision. Compared with the results from a similar 1995 California

technology survey, the 1998 findings suggested that newer multimedia computers were swiftly replacing older machines. Survey respondents reported that 62 percent of the computers in use in 1998 were either Power Macs (Apple) or IBM-compatible machines with Windows 95, and thus probably capable of accessing the Internet. The survey also found that 87 percent of respondents had Internet access (OTAN, 1998a); and

- To provide a more efficient system with fewer pieces of software (OTAN Online software for electronic communications and Web browser software for the information and databases on OTAN WWW), OTAN decided to migrate all of its components to the OTAN Web site. Staff developed a "registration enhanced" Web site, which allowed users to obtain OTAN accounts and to use the site free of charge.[9]

Prior to implementing these changes, OTAN had focused on enhancing its existing systems. The OTAN Online Communication System software was upgraded in mid-1998 to make it similar in appearance to the World Wide Web, in order to help long-time OTAN Online users transition to the Web. The upgrade also allowed some new features, including threaded discussions, World Wide Web homepage creation, and spell check.

The open registration system attracted a large number of new users. According to OTAN staff, as of January 1, 1999 (prior to the implementation of the new system), there were 1,001 accounts--with between 20 and 30 percent being inactive. By mid-May 1999, staff reported that 689 of those accounts had logged onto the new system, representing about 69 percent or virtually all of the estimated number of active accounts. By the end of June 1999, OTAN had obtained more than 1,400 new members, bringing the total to 2,119 (OTAN, 1999). OTAN staff's analysis of these new registration records revealed that most subscribers were California adult education teachers and most accessed the Web using America Online as their Internet Service Provider (ISP). This 100 percent increase occurred with OTAN conducting minimal publicity outside the group of existing subscribers.

Access to the Web site also increased, with the number of hits per month growing from 453,000 hits during December 1998 (just prior to the implementation of the open registration site) to 713,000 hits for the month of May 1999--an increase of about 57 percent. In Appendix B, Exhibit B-1 shows the rising number of hits and user sessions[10] over the 12-month period of June 1998-May 1999. A comparison of May 1999 data to that of March 1997 (the close of the last contract period) reveals an even larger increase. The number of Web site hits rose from 229,000 in March 1997 to 713,000 in May 1999--an increase of more than 300 percent.

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[9] The redesigned Web site was released in January 1999. In addition to the no-cost registration system, it has a number of other new features, including an online User Guide to assist inexperienced visitors, a new Java-based pull-down menu system, a new home page, and a redesigned Round Table area.

[10] A **hit** is an action on the Web site, such as when a user views a page or downloads a file. A **user session** is a session of activity (all hits) for one visitor to the Web site. By default, a user session is terminated when a user falls inactive for more than 30 minutes.

OTAN's decision to discontinue its roles as an ISP and Email provider as of June 30, 1999 resulted in an increased access from users with non-OTAN addresses. Presented in Exhibits B-2 to B-6, Appendix B are data on the numbers of hits and user sessions from the three most active providers: OTAN, K-12 institutions in California, and America Online (AOL). The level of access by users with California school district addresses (k12.ca.us) rose from 51,000 hits in June 1998 to 111,882 hits in May 1999, and the level of access by users with AOL accounts (aol.com) increased from 22,000 hits in June 1998 to 42,000 hits in May 1999. AOL users accounted for a large number of user sessions (28 percent of all user sessions in May 1999), but a relatively smaller number of hits (six percent of all hits in May 1999), suggesting that they visited OTAN in large numbers but engaged in less activity relative to users with K-12 California and OTAN addresses.

Another priority for OTAN was to assist other agencies gain a presence on the Web. Thirty-five programs developed their own Web sites using the online "Web Generator" feature and, as of September 1998, OTAN had provided links to the Web sites of 44 various education and library entities (OTAN, 1997b; OTAN, 1998b; OTAN, 1998c; OTAN, 1999). In addition, OTAN hosted the Web sites of several agencies on its servers and supported those sites with development and maintenance assistance. One of the sites hosted by OTAN--CNN San Francisco--was a partnership among OTAN, the California Distance Learning Project (CDLP), and CNN. It featured engaging news stories that could be used in literacy instruction.

During this period, OTAN conducted focus groups and surveys to determine the types of training and assistance that subscribers needed. The results led OTAN to offer 97 training workshops across California, reaching 2,207 individuals between April 1997 and June 1999 (OTAN, 1997b; OTAN, 1998b; OTAN, 1998c; OTAN, 1999). Session topics included: "OTAN Web Site Email and Collaboration," "OTAN Web Site Content and Searching," "Beginning Web," "Advanced Web," and "Basic OTAN Online." In addition, OTAN developed a variety of supplementary materials to answer commonly asked questions, highlight new features on OTAN Online and WWW, and meet the needs of specific populations. All materials, including those used during training sessions, were made available in PDF format on OTAN's Web site. Examples of these materials include OTAN's quarterly newsletters and a guide for using the A22 Course Approval System.

OTAN continued to provide free and unlimited technical support to its subscribers. It responded to 2,337 telephone calls during this period (OTAN, 1997b; OTAN, 1998b; OTAN, 1998c; OTAN, 1999). Staff also responded to emailed questions and continued to maintain the Help Desk, a database of solutions to common problems accessible through the Web site 24 hours a day. OTAN's staff conducted a Client Satisfaction Survey in early 1999 and asked subscribers to describe the assistance they needed. Connection-related issues (modem problems, finding an Internet Service Provider, Firewall/proxy server problems) generally were the types of assistance the subscribers identified. While connection issues were not directly under OTAN's control, staff provided support since many subscribers did not have easy access to technical assistance in their local agencies.

Information and Reference Services. OTAN's staff maintained relationships with the local, state, and federal agencies and organizations with which it shared information. The Forum was updated regularly and was expanded to nearly 20,000 files and database records, representing 404 MB of information as of June 1999 (OTAN, 1997b; OTAN, 1998b; OTAN, 1998c; OTAN, 1999). Specific improvements to the Forum during this two-year period included:

- The "For Teachers" area was enhanced to include a monthly feature integrating the Internet into instruction, and a comparison of Integrated Learning Systems;
- The Who's Who section was expanded to include a searchable database of key state and U.S. adult education contact persons;
- The Adult Literacy Reference collection grew by 39 percent to a total of 1,325 cataloged items;
- The VESL/Workplace Clearinghouse grew by 19 percent to 338 cataloged items;
- The Adult Education Archives collection increased by 44 percent to 958 cataloged items, and OTAN's staff began developing policies and procedures for digitizing many of the archival materials; and
- The Educational Technology Collection grew by 15 percent to 1,486 cataloged items.

During the period from 1997 to 1999, staff responded to more than 3,300 reference inquiries on a variety of topics, including research on legislation, statistics to support grant proposals, information regarding staff development, and resources for program improvement. Responses to a Client Satisfaction Survey that OTAN conducted in early 1999 revealed a very high level of satisfaction with the reference assistance provided by OTAN staff, with respondents rating their overall satisfaction at 4.75 on a five-point scale, (one being "unsatisfied" and five being "completely satisfied").

As the Forum grew in size and complexity over the years, it became necessary to formalize the processes involved with the preparation of information for inclusion in the Forum. In 1992, OTAN developed its first Document Processing Manual, which delineated these policies and procedures. In a third edition of the manual released in 1998, OTAN provided information on topics such as scanning, formatting, titles, headers and footers, graphics, post formatting/information storage, file maintenance, and databases (Harris et al, 1998). Although the information that OTAN receives has come from a variety of sources (CDE, OTAN subscribers, World Wide Web sites, etc.) and in a variety of formats (Email, paper documents, World Wide Web/HTML pages, word processing files, etc.), documents usually have been presented in one of three formats--text only, HTML, or PDF--depending on nature of the original document.

Instructional Technology. In the area of instructional technology, OTAN continued its role in providing resources and technical assistance to support technology planning. During this period, OTAN offered technology planning services and technical assistance to more than 20 agencies (OTAN, 1997b; OTAN, 1998b; OTAN, 1998c; OTAN, 1999).

OTAN also conducted activities focused on helping adult education agencies implement and use technology, such as the following:

- Established an online Adult Education and Technology Vendor Database. Accessible through OTAN's Web site, the database assists adult educators make informed decisions by offering descriptions of adult education and technology products with links to vendor Web sites. The database is searchable by vendor, keyword, and type of product, and is updated continuously by OTAN staff;
- Began a collaboration with CDLP and SDI to develop an electronic resource for adult educator staff development. The resulting project, called Teacher Training Online (TTO), provided self-paced, self-directed professional development via the World Wide Web. The first course offering focused on Family Literacy;
- Developed three multimedia programs available through the Internet to help adult literacy instructors implement Web-based instruction. After consulting with local agencies to determine the topics that would be most useful, OTAN developed three programs: WWW Based Learning, Technology & Language Learning, and WWW & Workforce Online;
- Continued its partnership with CNN San Francisco to host its Web site and provide support for the conversion of CNN news stories to literacy lessons;
- Provided a variety of assistance--selection of software and equipment, provision of training and technical support--to help the Regional Resource Centers implement a videoconferencing system that would connect Center managers and improve communication; and
- Updated the information about technology use in California by conducting a survey in 1998 (similar to the 1995 survey) to identify existing levels of use and new needs in technology.

Summary

Since its inception, OTAN's staff have used state-of-the-art technology to develop an electronic communication and information infrastructure for serving adult educators. OTAN's development has been both methodical and iterative, initially building a foundation for the infrastructure, then expanding the types of services and products available in its system, and most recently expanding the capacity and linkages of the system. What began as a special project to serve adult educators in California developed into a national resource for linking people and information electronically.

Four features have characterized OTAN's evolution:

- Use of state-of-the-art technology to create and refine the communication system and provide services, including ongoing updates to the hardware and software that have allowed for expansion and efficiency;
- Provision of training and technical assistance using a variety of modalities to support all levels of adult education program staff, state policymakers, and others in accessing and using OTAN;
- Development of different communication vehicles for fostering information sharing, building collegial relationships, and improving adult education practices; and
- Creation of an information base that includes the development of new materials, gathering of existing information, and the linking with other databases to provide resources for adult education program management, instruction, training, and policy development.

In undertaking these activities, OTAN's staff have worked to provide quality services in a timely manner that have enabled adult educators to access OTAN and have increased the capacity of adult educators in the state to use computers. The data collected by Abt Associates and by OTAN have indicated strong customer satisfaction with the assistance that OTAN has provided, as well as with OTAN's gradual expansion of materials and assistance to support the use of the system. This satisfaction may be attributed both to the methodical approach that OTAN's staff used in developing the system, as well as to the staff's attention to the need for ongoing system refinement, materials creation, and customer support. This approach has resulted in a system with a wealth of resources that can be used in a myriad of ways to improve adult education services.

III. Utilization of OTAN as a Communication Networkand Resource for Information

In developing a communication network, OTAN has created and refined a variety of tools and products to promote the exchange of information and discussions among OTAN's subscribers. The network was intended not only to assist local adult education staff in accessing the most current information concerning program regulations and requirements, but also to encourage interaction among program staff on operational and curricular issues. OTAN has served as a repository of research and programmatic information, as well as a gateway to national adult education resources available through the Internet. This chapter presents a discussion of the communication tools and information resources that OTAN has developed and the ways in which they have been used.

Communication Network

Description of Network Components. OTAN has developed various mechanisms for facilitating communication among its users, including Email and other components that evolved over time. With the redesign of OTAN's Web site in January 1999, the Email function was no longer offered and the communication components were reorganized under the Round Table. In addition to the various components under the Round Table, OTAN implemented an electronic feature that expedites the California Department of Education's adult education course approval system.

Email. OTAN offered subscribers Email accounts from its inception through June 30, 1999, when it was discontinued. The decision to discontinue Email service was based on CDE's and OTAN's recognition that local agencies had greatly enhanced their use of computer technology in recent years and that the vast majority of OTAN subscribers had Email accounts and Internet access provided through their host agency (community college, school district, etc.) or a private Internet Service Provider (America Online, Earthlink, etc.). Abt Associates' 1997-98 OTAN User Survey found that four out of five users (79 percent) had their own Email account in addition to the one that OTAN had provided.

Round Table Areas. The Round Table areas consist of five components of services designed to facilitate discussion and sharing of information among OTAN subscribers. The Special Topic Workgroups are dedicated to particular topics or projects in which members can share information, pose questions, and exchange files. A variety of agencies operate workgroups for their members, as well as do representatives from special interest groups. Some workgroups are public, such that any OTAN subscriber can read and post messages. Other workgroups are private, with only members having access to them. An example is the

Southern California Library Literacy Network (SCLLN), a network of professionals from approximately 50 library programs. Since geographic location, time, and financial constraints prevent the group from meeting fact-to-face frequently, the workgroup allows the network members to share information and plan events. Each workgroup has a manager, who maintains a list of members and organizes members' access to the workgroup.

Other components of the Round Table are the OTAN Exchange, Live Chats, List Servers, and Want Ads. OTAN subscribers use the Exchange to communicate on a wide variety of topics, including curriculum, technology, compliance with the Americans with Disabilities Act, and assessment. Through the Live Chats component, OTAN subscribers are able to communicate "live" on a variety of topics in a private or public setting. The Email List Servers are discussion groups that focus on specific topics such as adult education, alternative learning, English as a second language, and literacy. The final component, the Want Ads, enables OTAN subscribers to advertise available positions in their agencies or to look for positions in other adult education agencies.

CDE Course Approval (A22) System. Agencies receiving state funding must submit course approval request (A22) forms annually. In 1997, OTAN unveiled the A22 Course Approval System that streamlined the approval process by allowing subscribers to submit requests electronically to the Department of Education. Subscribers also can use the system to view a list of approved adult education courses statewide.

Usage and Perceived Quality of Communication Features. Prior to its termination, Email was the most heavily used communication feature, used by 72 percent of respondents to Abt Associates' 1997-98 User Survey. One-third (33 percent) reported using it once a day or more, and another 33 percent used it one to four times a week. Over three-quarters of the survey respondents reported finding Email "easy" or "very easy" to use, and just six percent found it "difficult" or "very difficult." The vast majority (93 percent) of the respondents reported that communicating with other programs is a primary reason for using Email. Other frequently noted uses included "improve program" (44 percent), "manage program" (39 percent), and "working with others on a joint project" (35 percent).

The Round Table area was accessed by about half of the 1997-98 User Survey respondents, and the Exchange was the most popular component, used by 42 percent of respondents. Of the respondents that had used Round Table, most (64 percent) categorized its use as "very easy" or "easy," and just five percent found it "difficult" or "very difficult." When asked to explain why they used the Round Table area, the most frequently cited reasons were to "improve program" (44 percent), "improve self" (32 percent), and "work with others on a joint project" (32 percent).

In early 1999, changes were made to the appearance and organization of Round Table area. Most notably, a split-screen frame was implemented that allows subscribers to simultaneously view a list of message titles on one side of the screen and the content of a selected message on the other. (Previously, users had to switch back and forth between screens to view a list of messages and the contents of individual messages.) Abt Associates' 1999 User Survey asked subscribers to evaluate the ease of use of the redesigned Round Table. Of those who had accessed it, 23 percent said it was "Very Easy" or "Easy," 13 percent felt that it was "Average," and just 5 percent found it "Difficult" or "Very Difficult."

From the telephone interviews that we conducted with subscribers, we identified several examples of how they use OTAN's communication features, including:

- An administrator had a question related to admissions policies and wait lists for popular classes. She posted her question to the Exchange, and in a few days, had numerous responses. Had OTAN not been available, she felt it might have taken weeks or months to obtain the same level of information;
- An instructor, wanting to converse with colleagues around the state about their use of instructional materials and technology, found the real-time conversations through OTAN's Live Chats to be extremely useful. Because of her program's budgetary limitations, she isn't able to do this through long-distance phone calls. Thus OTAN is the only vehicle that enables her to have this type of interaction; and
- An administrator reported using the Exchange regularly when he has a question about state compliance issues. For example, he posted a question related to the establishment of a committee to oversee the administration of one-time site grants. He received a response and followed up to obtain additional information via Email.

Information Storage and Retrieval

Description of Information Features. Prior to January 1999, most of OTAN's information resources were organized within the Forum, a collection of electronic documents and databases that contained more than 20,000 records and documents. With the redesign of the Web site, these documents were placed under OTAN Resources, which consists of the following components:

- California Adult Education History--a collection of various historical resources and projects that allows users to search the Adult Education Archives, which contains more than 1,000 items;
- CA Adult Ed Products--a searchable collection of products (videos, instructional materials, reports, etc.) that OTAN maintains and distributes on a cost-recovery basis;
- CDE Info--notices, documents, and other information from the California Department of Education;
- Codes and Regulations--excerpts of selected state and federal laws;
- Document Library-- a collection of electronic documents (in text format) organized by more than 30 topics;
- Educational Grants--summaries of grant opportunities for adult education providers, accessible by keyword search or by browsing all grant postings;
- For Teachers--a collection of resources for instructors, including Course Outlines, Lesson Plans, and links to various resources;
- Legislative Information--primarily state-level, but including federal resources to help members track and understand legislation related to adult education, welfare reform, immigration, and other topics;
- Master Calendar--a list of activities and important dates, searchable by date, category, geographic region, and organization;
- Presentations--the presentations that staff from OTAN and the California Department of Education made at conferences and meetings, which members can download in PDF format;
- Reference Libraries--searchable databases that allow members to retrieve citations and other references to the Adult Ed Reference Collection, VESL/Workplace Clearinghouse, Employment Training Library, Adult Education Archives, and Educational Technology Collection; and
- Who's Who--a searchable directory of key individuals in adult education, including OTAN members, California state officials, and contacts in the federal and other state governments.

In addition to the components under OTAN Resources, other informational resources that can be accessed through OTAN are:

- OTAN News--Links to current and archived announcements and stories pertaining to adult education;

- OTAN for Teachers--With the revision of the Web site, OTAN's staff created a new area specifically for teachers that has three sections: Technology, Communication, and Resources. The Technology section contains general Internet information, assistance with technology planning, information about distance education, as well as hardware and software resources. Through the Communication section, OTAN subscribers can link with other sections of OTAN, utilize various Internet resources, provide feedback to the OTAN staff, and post ideas on the Teacher Exchange. The Resources section contains information related to teacher credentialing, professional development, career planning, as well as links to lesson plans and assessment information. Information about vendors also is included in this section;
- Adult Education Links--OTAN maintains links to over 100 Web sites that are related to adult education instruction, administration, grant seeking, research, legislation, staff development, and other topics. OTAN subscribers can search for the Web sites that are categorized under more than 50 topics; and
- Partner Sites--OTAN provides links to adult programs in the state, professional organizations, and adult education-related projects and agencies.

Usage and Perceived Quality of Information Features. Abt Associates' two surveys and interviews with OTAN subscribers indicated high levels of satisfaction with OTAN's informational resources but differences in the extent to which subscribers used the resources. While most subscribers found the major informational components of OTAN to be easy to use, some areas were utilized more than others.

Eight out of ten respondents to the 1997-98 OTAN User Survey conducted by Abt Associates indicated that they had used the News area, which at the time represented the highest level of use of any of OTAN's Online components. In a subsequent survey and interviews, OTAN subscribers consistently mentioned the News area as one of the most important and useful features of OTAN because of its ability to synthesize a variety of information relevant to adult educators.

When subscribers were asked to identify the Forum (the title of the area in OTAN before it was changed to Resources) components they found useful in the 1999 User Survey that Abt Associates conducted, more than half of the respondents identified four areas (see Exhibit III-1). These were: CDE Information (81 percent), Legislative Information (66 percent), Educational Grants (57 percent), and Master Calendar (51 percent). These results were similar to the 1997-98 User Survey, which asked subscribers to identify which resource components they use. Three of the top four areas were the same--CDE Information (67 percent), Legislative Information (64 percent), Course Outlines (53 percent), and Educational Grants (52 percent).

Exhibit III-1: Use of Forum Areas

Response	Reported use of Forum Areas			
	1997-98 User Survey (n = 252)		1999 User Survey (n = 176)	
	Frequency	Percent[1]	Frequency	Percent[1]
CDE Info	169	67	142	81
Legislative Information	161	64	117	66
Educational Grants	132	52	100	57
Master Calendar	101	40	90	51
Codes and Regulations	109	43	83	47
For Teachers (including Course Outlines & Lesson Plans)[2]	-	-	71	40
Course Outlines[2]	133	53	-	-
Lesson Plans[2]	106	42	-	-
Document Library	108	43	65	37
Presentations[2]	-	-	51	29
Reference Libraries	64	25	51	29
CA Adult Ed Products[2]	-	-	42	24
Who's Who	86	34	38	22
CA Adult Ed History[2]	-	-	22	13

Sources: 1997-98 User Survey; 1999 User Survey conducted by Abt Associates Inc.

[1] Percents are based on the number of survey respondents (n=252 for the 1997-98 User Survey; n=176 for the 1999 User Survey). Respondents could select more than one answer.

[2] The 1997-98 User Survey did not directly ask respondents about their use of the "For Teachers" area, the Presentations area, the CA Adult Ed Products, or the CA Adult Ed History area. However, it did ask about use of specific "For Teachers" components -- Course Outlines and Lesson Plans.

In the interviews that we conducted with subscribers and in the analysis of the User survey responses, we identified examples of how subscribers had used OTAN's informational resources, such as the following:

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- An administrator from an adult program needed to revise its citizenship curriculum. Initially, she tried to contact a few vendors directly, but felt that their products were neither relevant nor of sufficient quality. She had greater success with OTAN. After posting queries on the Exchange, she received lists of materials that other programs had found satisfactory. Through using Course Outlines, Lesson Plans, and the Vendor database, she found information on a number of other promising instructional materials and methods;
- Aside from the value of accessing OTAN's information, a number of subscribers commented that they felt less isolated because of the way OTAN connected them with news and resources. A number of administrators commented that keeping track of legislation and new developments the field of adult education was central to their jobs, and OTAN was their primary vehicle for doing so; and
- Several administrators indicated that they had secured grants as a result of applying for grants they had learned about in OTAN's Educational Grants section. Others have used the News postings and CDE Information areas to identify sources of public funds, including applications, deadlines, and requirements.

OTAN as a Resource for Program Improvement

Although program improvement was not an explicit goal of OTAN when it was created, subscribers had begun to utilize OTAN for this purpose. In our interviews with program administrators, all but two of the 18 participants indicated that they were involved in some type of program improvement activity, such as revising curriculum, implementing new assessments, investigating new instructional strategies, or making changes to program policies and procedures. They all indicated that they were using OTAN as a resource. About half of the administrators involved in program improvement activities were focused on revising curriculum, and they reported using OTAN in two ways: 1) accessing areas such as Course Outlines, Lesson Plans, or the LAES Round Table to identify the types of materials others were using; and 2) using the Exchange or other Round Table areas to pose specific questions to other practitioners about their use of different instructional materials and methods. Another frequently mentioned type of program improvement activity was identifying how technology can be used to facilitate student learning. Again, respondents used OTAN as a source of information (e.g., searching the Adult Ed and Technology Vendor Database) and as a communication vehicle (e.g., asking other practitioners about technology they have used through the Exchange or Round Table).

In addition to conducting telephone interviews, we posted a question on OTAN's main page that asked members to describe how they had used OTAN to support program improvement activities. Our analysis of the interviews and the responses to the online question included a wide variety of activities. Examples of the responses, organized into three categories (Curriculum, Staff Development, and Program Management), are listed below.

Developing or Revising Curricula and Identifying Teaching Materials:

- "We've checked out course outlines available before re-inventing the wheel."
- "Very valuable. As someone new to California, this gives me insights into California's programs. I print lesson plans to remind/encourage staff to teach our adult D.D. clients by breaking new lessons into steps for more success."
- "Our individualized H.S. diploma program has begun a major curricular enhancement. We have started with Fine Arts. By viewing course outlines on OTAN we discovered a fresh way of dividing our two levels of Fine Arts. Like [another program that had posted instructional materials on OTAN], we will divide them into performing and visual arts."
- "We have used OTAN sample lesson plans for our volunteers to get ideas about what to teach. We have also used some articles in the Document Library for volunteers with specific problems, such as how to teach ESL to someone who is learning disabled."
- "I've used sample parent ed course outlines from OTAN for content ideas for [a] new parenting class."
- "I am in the process of working on our CAI (computer-assisted instruction) and find the Vendor Database helpful."
- "I have adapted the course outlines for reading instruction and writing instruction ... to use in my Tutor Training Courses. These materials help the tutors better 'picture' a logical sequence of instruction. I am also responsible for Computer Literacy instruction and have adapted OTAN's fine Internet training as part of the materials that I use. I design and teach computer literacy to older adults. I have used the resources in the documents library as a starting point for my research into the area. When I am looking for information, OTAN is always my first stop."

Providing Staff Development or Enhancing Own Skills:

- "Located training sessions for staff."
- "Reading the posted info has given me much insight. It's like having many mentors at once."

- "Use the announcements of workshops, conferences, and teleconferences to distribute to staff."
- "I've used the document libraries for research for papers required in credential classes."
- "This Web site has been very valuable in my development and understanding of the adult education and ABE areas. I've spent quite a bit of time doing research and 'fact finding' in OTAN. Really like the Round Table."
- "Since our teachers are at remote sights around the state it is an essential tool for staff development."
- "OTAN is invaluable for personal/professional growth -- keeping up with rapid changes. (Example: Workforce Investment Act)."
- "I gave an Internet workshop to teachers last fall. I used OTAN as my primary source."
- "I use the calendar to keep posted on staff development offerings and finding information on meetings of interest and importance to me."

Improving Program Management:

- "OTAN is super for course perusal and approval. Little paperwork, no mess or wasted time."
- "Asking about specific database software from colleagues."
- "This has been tremendously helpful!!! I like to use it to get feedback on how others are doing things, are they having similar difficulties, and so forth. This was instrumental in obtaining info that I used to convince my district that our adult school was entitled to the Site Block Grant."
- "OTAN is the most expedient distribution method for new policies, gathering data, or improving communication."
- "I appreciate being able to electronically file reports."
- "We received a $40,000 grant from a source we found on OTAN."
- "OTAN has been a very important source of 'leading edge' information. I use it to be on top of pending and new legislation, grant opportunities, model programs and practices, and networking with other professionals. OTAN helps identify where new programs and methodology are taking place -- we are particularly interested in integrating technology into curriculum and instruction."

Barriers to Use

The two surveys that we conducted in 1997-98 and 1999 revealed that levels of use vary among subscribers, from those who use OTAN on a daily basis to others who access it once every several months. This section examines factors that may explain subscribers' frequency of use of OTAN. Also discussed are our reviews of two of OTAN's resources--Course Outlines and Lesson Plans--as examples of the types of information that are available to subscribers.

Barriers to Use Reported by Subscribers. The 1997-98 User Survey conducted by Abt Associates asked respondents to identify barriers they had encountered in using the OTAN Online Communication system. In Exhibit III-2, the responses to this open-ended question are compared with those from a similar question on the 1997-98 Non-user Survey that we conducted, which asked respondents to provide reasons why they had not been using OTAN Online. One key difference between users and non-users appears to be technical capacity. Forty-three percent of the Non-user Survey respondents felt that the computer equipment they had to work with was either insufficient or completely lacking, compared with 16 percent of User Survey respondents.

Other barriers listed by respondents on both the User and Non-user Surveys include a lack of time (26 percent of users, 24 percent of non-users) and dissatisfaction with OTAN's content/organization (20 percent of users, 25 percent of non-users).

The 1999 User Survey that we conducted produced similar findings. Subscribers were asked to compare their use of OTAN in early 1999 (after a redesigned version of the Web site was released in January 1999) with their use in Fall 1998. Twenty-four percent of respondents indicated that they were using it less often than they did in Fall 1998 or hadn't used it at all in 1999. When asked to explain why, 40 percent of those responding cited lack of time and local technical problems as the primary reasons for lack of use. Their responses are summarized in Exhibit III-3.

The most commonly cited barriers to using OTAN--inadequate computer equipment and other local technical problems faced by subscribers--are not issues that OTAN can address directly. OTAN's staff have recognized that the adult education field has varying technical capacities and types of software in use. They have designed the Web site accordingly, so that it will work with older as well as newer versions of Web browsers and will not require an excessive amount of computer memory. OTAN's policy has been to ensure that the Web site is fully accessible to anyone using Web browser software one version older than the current standard.

Exhibit III-2: Barriers to Use (Combined Users & Non-users)

Response	Total - Users & Nonusers (n=250)		Responses of Users (n=153)		Responses of Nonusers (n=97)	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
Barriers to use of OTAN: *						
Technical problems at subscriber's site / inadequate computer equipment	66	26	24	16	42	43
No time	63	25	40	26	23	24
Inadequate OTAN content and/or organization of content	54	22	30	20	24	25
Technical problems with OTAN	49	20	42	27	7	7
Lack of training or knowledge of computers	40	16	28	18	12	12
Can get information from other sources (e.g. web, OTAN users)	15	6	-	-	15	15
There are no barriers	15	6	15	10	-	-
New to position	8	3	-	-	8	8
Don't have access to OTAN	3	1	-	-	3	3
Not a valid response	6	2	2	1	4	4

Sources: 1997-98 User Survey and 1997-98 Non-user Survey conducted by Abt Associates Inc.

* The questions from both the User and Non-user Survey were open-ended, with 153 responding on the User survey, and 97 responding on the Non-user survey. In both surveys, some respondents cited more than one reason.

While the barriers regarding lack of time and local technical problems are not issues that OTAN's staff could remedy directly, they could address the barrier concerning the content and organization of OTAN's areas. In the two surveys and interviews that we conducted, respondents noted two ways in which the content and organization of OTAN might be improved: 1) the ease of identification of information due to vague menus categories (e.g., Partners) or the specificity of the mail Search feature, and 2) the number of postings in areas such as Course Outlines and Lesson Plans.

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Exhibit III-3: Use of Redesigned Web Site in 1999

Response	Frequency	Percent
Please describe your use of OTAN since the redesigned web site design was released in mid-January 1999.	(n = 176)	
I'm using it more often than I did in Fall 1998.	34	19
I'm using it about as often as I did in Fall 1998.	99	56
I'm using it less often than I did in Fall 1998.	20	11
I haven't used it at all since it was redesigned.	22	13
No response	1	1
If you haven't used the web site or use it less often, please explain why. *	(n = 38)	
Haven't had time to use it	9	24
Local technical problems (access speed, modem problems, inadequate hardware) make it too slow or impossible to use	6	16
New site is more difficult to use; takes too long to find things	5	13
Liked the old version of the web site better	4	11
Don't feel the need to use it as often	4	11
Need training to use it	2	5
Can't offer explanation	2	5
Email is not a part of the new system	2	5
Prefer OTAN Online	1	3
This survey prompted me to explore the redesigned site	1	3
Have just recently gotten around to registering self	1	3
Unsatisfied with content of web site; material not kept current	1	3

Source: 1999 User Survey conducted by Abt Associates Inc.

* This was an open-ended question, with 38 of 176 individuals responding.

Strategies for Addressing Barriers to Use. During the time period that we were collecting data for this evaluation, OTAN's staff were redesigning various aspects of OTAN, including the organization and categorization of information on the Web site. After we conducted the User and Non-user surveys, we presented our findings to the staff, who incorporated this information into the redesign. As a result, OTAN's staff addressed the barrier that subscribers

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had identified in our surveys concerning the ease of identification of information. OTAN's staff organized the areas of the Web site so that they are understandable and have labels that communicate their contents. These changes should result in a greater ease of use of the Web site.

A second barrier to use that subscribers had identified was the number of postings in various areas such as Course Outlines and Lesson Plans. The results from our interviews with OTAN's staff indicated that they had solicited these documents routinely and had made special attempts to encourage teachers to submit their course outlines and lesson plans to OTAN for posting. It appeared that while OTAN's staff had made significant efforts to obtain these materials, their efforts alone were not sufficient. Rather, more encouragement by CDE staff or local program administrators may be needed to stimulate the submission of lesson plans and course outlines.

Review of Course Outlines and Lesson Plans

As part of its assessment of OTAN's products for program improvement, Abt Associates reviewed a sample of items from two OTAN areas-- Course Outlines and Lesson Plans--to explore the factors that might influence subscribers' use of these areas. Both the organization and the content of these areas was examined.

Course Outlines. Course outlines are found in the "Course Approval" section of OTAN and also can be accessed using the Search function. Available under ten broad subject headings or "authorized areas" of California adult school instruction (e.g., Elementary Basic Skills, Vocational Education), the course outlines provide instructional frameworks for teachers to use in planning and implementing their own courses. Components included in the course outlines are: goals and purposes of the course, performance objectives, instructional strategies, times of instruction (number of hours needed to cover each section of a course), evaluation (including description of measurable evaluation criteria), and conditions under which a student must repeat a course.

While the guidelines for the course outlines are specific and uniform, the quality of the sample of outlines that we examined contained differing degrees of specificity. For example, an outline under the Adults with Disabilities section contained a minimal framework for creating a community access course for mentally limited learners. In this outline, the instructional strategies were not fully described and evaluation measures were not described specifically. In contrast, a second outline we reviewed contained a more detailed description of a competency-based basic skills course. In this example, the competencies were listed clearly, the instructional strategies were delineated and explained, and a six-component evaluation plan was listed. A third outline of a basic skills course contained materials along with the outline, such as a chart that linked learning objectives to suggested learning activities. This chart was written in clear language that could be used by either a new or experienced adult education instructor. Outlines in other sections, particularly those in the vocational education section, delineated courses in detail. It may be the case that the certification requirements guiding vocational courses such as cosmetology and manicuring provide instructors with more information to develop detailed syllabi.

One result of this variation in the amount of specific information presented in the course outlines is that they may be of differing utility to teachers with different backgrounds. While experienced teachers may need only a broad framework to use in developing a course, a less experienced may require detailed, specific information for course development.

Lesson Plans. Lesson plans, which are found in the "OTAN For Teachers" section of OTAN, are organized into the authorized areas of adult school instruction in California and are divided by general subject within 11 major categories. Within each subject, the lesson plans are organized alphabetically by topic. Each lesson plan contains the following components: lesson objective, introduction /warm-up exercise, presentation or body of the lesson, guided practice, evaluation guidelines, and ideas for independent practice or lesson follow up.

As with the course outlines, the specificity and quality of the lesson plans vary. In our review of a sample of lesson plans, we found differences in the amount of information presented in the plans. For example, a lesson plan concerning store-loitering situations that could potentially be encountered by a convenience store clerk consisted of a short outline for free-form discussion that was to be used in conjunction with the viewing of a video on the topic. Another lesson plan designed to teach students how to read classified advertising had a clear delineation of the framework and sequence of the lesson, but contained minimal information about materials to be used or the probable length of lesson. A third plan for an ESL lesson on grocery shopping indicated a detailed vocabulary lesson and a multi-sensory activity that would appear to be engaging to students. This plan, however, did not specify an evaluation or follow-up strategy for the lesson.

Recommendations. While the quality and content of the course outlines and lesson plans are somewhat beyond the control of OTAN's staff, some additional information might be requested from those submitting these documents to facilitate their use. Three recommendations that might be considered for enhancing the quality of the lesson plans and course outlines are as follows:

- Revise the Lesson Plan format to include a section that describes the instructional materials (videos, books, etc.) required to implement the lesson;
- Include in Lesson Plans a section where the plan's author can describe the thinking or theory that led her/him to create the lesson s/he did. For example, if an instructor has selected a phonics-based approach for the lesson, she/he could include a brief description of the rationale for this approach. This information would help instructors reviewing the lesson plan to understand the approach better; and
- Include a glossary of commonly used instructional terms in the "For Teachers" section, since the lesson plans and course outlines may include terms that are not familiar to all adult educators.

IV. Training and Technical Assistance

Training Provided by OTAN

Description of Training. OTAN has provided a variety of training workshops to assist adult educators to use OTAN as well as to access resources on the Internet. The content of the training has changed over the years to reflect revisions to OTAN's system as well as new technological developments. For example, when OTAN operated the dual Online and Web systems, its workshops were focused on installing and using OTAN Online software, using Web browser software, and navigating the Web. OTAN's shift to a Web-based system necessitated the discontinuation of OTAN Online-related workshops and the creation of additional Web-related workshops.

As of June 1999, OTAN offered five workshops. Each was three hours in duration. The titles of the workshops are listed below, followed by OTAN's descriptions of these activities:

- **Introduction to the World Wide Web and the OTAN Web Site.** This workshop provides an overview of the Internet, the World Wide Web, and the OTAN Web site. Topics addressed include how to use a web browser and how to create bookmarks, as well as a basic overview of the OTAN Web site. Participants are given the opportunity to complete hands-on exercises;
- **OTAN Web Site Content and Searching.** This session addresses information resources on the OTAN Online Web site and effective strategies for searching the different documents and databases (Master Calendar, Reference Libraries, Vendors' Database). Included are structure, keyword, and fielded searching. Participants also are given the opportunity to complete hands-on exercises;
- **OTAN Web Site Discussion Areas.** In this workshop, participants are introduced to the areas of the OTAN Web site where they can collaborate with other adult educators in California and around the world. Areas include online workgroups, listserves, and web discussions. Participants also are given the opportunity to complete hands-on exercises;
- **Downloading, Plug-ins, and File Compression.** This workshop is for users who are familiar with the World Wide Web and want to learn the basics of downloading programs and other files from the Internet. Participants are given the opportunity to download and install two popular "plug-ins" during class--RealPlayer and the Adobe Acrobat Viewer. RealPlayer allows the user to view videos and listen to audio while using a web browser. Adobe Acrobat Viewer allows the user to view the many PDF documents that are posted on the World Wide Web, including documents located on the OTAN Web site. Other topics

addressed in the workshop may include locating downloadable files on the World Wide Web and how file compression works; and

- **New Features of the OTAN Web Site.** This workshop is designed for experienced users on the OTAN Web site. Participants are introduced to the newest features of the OTAN Web site, and the class is updated as new features are added to the OTAN Web site. Participants also are given the opportunity to complete hands-on exercises.

These workshops have been publicized primarily through the Training section of OTAN's Web site. Each workshop has been offered multiple times a year at various locations throughout California. Until the Regional Resource Centers ceased operation in June 2000, training was provided at the Centers, which offered a variety of technical support and other services for adult education providers in California. OTAN workshops also have been hosted by local adult education agencies. OTAN staff also have traveled to an adult school offering to host a workshop, provided that the school has adequate facilities, (e.g., a computer lab with a fast Internet connection), and there is a sufficient number of educators (eight or more) interested in participating. Any adult educator can register for a workshop by submitting information through the Web site or by telephoning OTAN directly. OTAN has not charged a fee for the workshops, but some host sites have charged a small site fee--e.g., $2 per person--to defray costs associated with offering the training. Those interested can download the workshop handouts, which are available in PDF format on the Web site.

Use and Perceived Quality of Training. In order to determine OTAN subscribers' perceptions of the quality of the training that they have received, questions on this topic were included in Abt Associates' 1997-98 OTAN User Survey. Over half (57 percent) of the respondents from the User Survey had participated in at least one training session. At the time the survey was conducted, workshops were focused on assisting subscribers in: installing and using OTAN Online, using Web browsers, and learning about relevant Web sites. Respondents reported high levels of satisfaction with the training. Nearly all survey respondents (99 percent) who had received training found it helpful. When asked to describe their satisfaction with the training and technical assistance, the survey respondents indicated that they had achieved their goals of learning how to use OTAN (42 percent); that the training was of high quality (33 percent); and that they had learned about the Internet/WWW (12 percent). Exhibit IV-1 presents the types of training that users received and their assessments of the types of training that were most helpful. Exhibit IV-2 lists the factors those survey respondents identified as important in facilitating their continued use of OTAN. Almost half of the respondents cited their ability to access information as a key reason for accessing OTAN.

Exhibit IV-1: Types of Training Received by Users and Level of Satisfaction

Response	Types of training received *		Which type of training was the most helpful?	
	Frequency (n = 143)	Percent	Frequency (n= 109)	Percent
How to use OTAN Online	136	95	49	45
Installation/setup of OTAN Online	76	53	13	12
How to use the WWW	70	49	10	9
How to use Netscape or Internet Explorer	64	45	13	12
Education web sites	36	25	3	3
Distance learning web sites	28	20	0	0
Other	9	6	21	19

Source: 1997-98 User Survey conducted by Abt Associates Inc.

* Percents are based on the number of users that indicated they had received training (n=143). Some indicated participation in more than one type of training.

Exhibit IV-2: Factors Facilitating Use of OTAN Online

Response	Frequency	Percent
Factors facilitating use of the OTAN Online communication system:*		
Ability to access information	65	42
Ease of use	41	27
Support from OTAN staff (tech support)	37	24
Availability of training	22	14
Ability to communicate with other programs, colleagues	21	14
Availability of a computer	9	6
Knowledge of computers and/or Internet	8	5
Support from own staff	5	3
Availability of free software	5	3
Mandated for 321 organizations	5	3
Availability of print support (the manual/guide, newsletter)	3	2
Access to WWW	3	2
Ability to access at home	3	2
Non- valid response	3	2

Source: 1997-98 User Survey conducted by Abt Associates Inc.

* This was an open-ended question, with 153 of 252 individuals responding. Some gave multiple responses.

Subscribers who did not participate in OTAN's training were asked to explain why they had not done so (see Exhibit IV-3). Forty-two percent of the respondents indicated logistical reasons as a barrier to participation, such as location and time. Other reasons respondents cited were that workshops were not held in areas convenient to users (30 percent); workshops were not offered at convenient times (12 percent); or that respondents felt that they had no time for training (12 percent). Additional reasons generally concerned subscribers' existing comfort with OTAN and/or with computers in general.

Subscribers who participated in training were more likely to use OTAN regularly. Of those categorized as heavy users in the 1997-98 User Survey, 64 percent had participated in OTAN training, compared with 30 percent of respondents who used OTAN infrequently.

Exhibit IV-3: Reasons Users Have Not Received Training

Response	Frequency	Percent
Why have you not received any training? *		
Too great a distance away from training	31	30
Training not offered at convenient times	12	12
No time for training	12	12
OTAN is easy enough to use	12	12
Got training from another source	12	12
Never felt the need for training	11	11
Already an experienced user of computers and/or Internet	10	10
Unaware that training existed	7	7
New to position; wasn't there when training was offered	6	6
Users guide is sufficient	2	2
Unaware that training was needed	2	2
Training didn't appear to meet needs	2	2
Non- valid response	4	4

Source: 1997-98 User Survey conducted by Abt Associates Inc.

* This was an open-ended question, with 103 of 252 individuals responding. Some gave more than one answer.

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Technical Assistance Provided by OTAN

Description of Technical Assistance. As of June 1999, OTAN offered five types of technical assistance, each of which was publicized in the Technical Assistance section of the Web site. The types of assistance were:

- **Telephone.** A toll free number (800-894-3113) connects subscribers directly with an OTAN tech support staff person, available weekdays from 8:00 am until 5:00 pm. The toll free number is only for California-based users. A local number (916-228-2580) also is available;
- **Email.** Subscribers also may Email their questions to <support@otan.dni.us>;
- **Help Database.** By entering keywords and describing the type of computer they use, subscribers can search an online database of solutions to common technical problems;
- **Tech Support Request Form.** Available online is a short form that subscribers can complete which describes the type of computer they use and the nature of the problem or question that they have. Subscribers can choose to be contacted by OTAN staff either by phone or Email; and
- **Publications.** OTAN's *Online Connection* is a quarterly newsletter containing general information about OTAN, notices of changes to the system, highlights of areas/features, answers to frequently asked questions, and other information. The paper version is mailed to subscribers free-of-charge. The newsletter also is available online in PDF format along with other files that users can download for reference, such as handouts from OTAN training and the Web Sitemap.

Use and Perceived Quality of Technical Assistance. Three out of four respondents to Abt Associates' 1997-98 User Survey indicated that they had received some form of technical assistance. As indicated in the two surveys and in numerous telephone interviews that Abt Associates' study team conducted with subscribers, the assistance provided by OTAN was one of the critical factors facilitating subscribers' use of the system. Survey respondents indicated that one reason for their positive assessment was the overall quality of the assistance they had received. The respondents thought that OTAN's staff were exceptionally capable and patient in answering a wide range of inquiries, and that their problems were solved in a timely manner. The variety of assistance options that were available to subscribers made obtaining help a relatively easy process, which our telephone interview respondents thought was in contrast to the sometimes unfriendly assistance offered by many Internet Service Providers, software companies, and hardware manufacturers. As indicated in Exhibit IV-4, the toll-free telephone support line that OTAN operated was rated by survey respondents as the most satisfactory means of technical assistance, with 96 percent rating it as "satisfactory" or "very satisfactory." In addition to providing telephone and Email assistance, OTAN staff have traveled to program sites to address problems that cannot be solved remotely.

OTAN subscribers also thought that OTAN's technical assistance was important because it often was the only technical support they could obtain for computer- or Internet-related issues. Since adult education programs--particularly those operating within community-based organizations--generally have limited resources for technology and related support, OTAN sometimes has been the only available source of assistance. Several of our telephone interview respondents indicated that without OTAN's support, their computer-related problems would not have been resolved for long period of time, thus preventing their use of OTAN and the Internet. This was particularly true for those who were not facile in using computers when they began as subscribers to OTAN. Because the technical support was accessible and staff were patient, these subscribers felt comfortable asking basic questions.

Exhibit IV-4: Levels of Use and Satisfaction with Technical Assistance

Response	OTAN Online Users Guide		OTAN Online Newsletter		Workshops & Conferences		OTAN Presentations	
	Freq.	Per.	Freq.	Per.	Freq.	Per.	Freq.	Per.
Level of satisfaction:*								
Very Satisfied	47	34	61	40	73	45	71	50
Satisfied	72	52	73	47	71	44	50	35
Neutral	20	14	19	12	17	10	19	13
Dissatisfied	0	0	1	1	1	1	3	2
Total	**139**	**100**	**154**	**100**	**162**	**100**	**143**	**100**

Response	OTAN's Toll Free Support		Electronic Support Form		Email Message to Support Area		OTAN's WWW Help Desk	
	Freq.	Per.	Freq.	Per.	Freq.	Per.	Freq.	Per.
Level of satisfaction:*								
Very Satisfied	120	73	39	47	53	47	32	40
Satisfied	38	23	19	23	34	30	25	31
Neutral	5	3	24	29	24	21	22	28
Dissatisfied	2	1	1	1	2	2	1	1
Total	**165**	**100**	**83**	**100**	**113**	**100**	**80**	**100**

Source: 1997-98 User Survey conducted by Abt Associates Inc.

* Level of satisfaction percents are based on the number of users of that particular support/resource, noted in the Total rows.

Exhibit IV-5 lists the types of assistance sought by subscribers based on a survey that OTAN conducted in early 1999. Respondents reported that most of the assistance they needed was related to solving local connectivity problems, such as configuring a modem or troubleshooting problems with their organization's firewall or proxy server[1]. Other common requests for assistance were related to using OTAN, such as retrieving forgotten passwords or locating a piece of information on the Web site.

Exhibit IV-5: Types of Technical Assistance Sought by Subscribers

Response	Frequency	Percent
Please check what OTAN Technical Assistance helped you to do: *		
Troubleshoot a modem problem	10	30
Resolve ID/password problems	9	27
Other	9	27
Interpret or explain an error message	8	24
Download software	6	18
Troubleshoot Firewall/Proxy Server problems	6	18
Locate information on the OTAN Web site	5	15
Install your OTAN Online Software	4	12
Install a Web browser	2	6
Make software selections	2	6
Make hardware selections	1	3
Use a Web browser	1	3
Find an ISP (Internet Service Provider)	1	3

Source: 1999 Client Satisfaction Survey - Technical Assistance (conducted by OTAN)

* Respondents could give more than one answer. Percents are based on an n of 33 individuals that responded to this survey.

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[1] A firewall is a combination hardware and software buffer that many companies or organizations construct to protect their internal networks from intruders or hackers who might use the Internet to break into those systems. Proxy servers speed up web access by storing web pages on the local server.

OTAN's Role with Special Projects

Beyond its traditional activities of operating a communications and information network and providing training and technical assistance, OTAN has provided guidance and assistance to support special projects that serve targeted populations of adult educators and/or learners. OTAN has assisted these projects use technology to reach their goals. Some examples of past activities are:

- The Southern California Library Literacy Network (SCLLN) consists of nearly 50 library-based programs throughout southern California that offer basic reading and writing instruction to adults, in addition to providing other services. SCLLN began working with OTAN in 1996 to establish ways of using technology to remove geography as a barrier to collaboration and communication. SCLLN ensured that all member libraries had OTAN accounts and established a Round Table Work Group. According to SCLLN members interviewed by Abt Associates' staff, the resources that OTAN provided--Email, chat rooms (for real-time meetings), and Round Table--have resulted in a greater amount of collaboration and joint ventures. OTAN also has hosted SCLLN's Web site and an electronic version of "Tutor Exchange"--a newsletter for the 5,000 tutors volunteering in SCLLN libraries. One SCLLN member commented that OTAN has helped to "build our community" of library literacy providers;

- The Latino Adult Education Services project (LAES) developed instructional materials for Latino ESL learners. It began in 1991 and received funding support from the California Department of Education as a National Literacy Act, Section 353-funded project. LAES developed four categories of materials: advancing work and career; promoting community participation; managing family life; and developing life-long learning. LAES used OTAN as a resource for communication, research, and dissemination of the materials it developed. The OTAN librarian assisted with the research that informed the development of the materials, and other OTAN staff helped to establish and host a LAES Web site. A Round Table Work Group was created for LAES members, and OTAN staff assisted members in posting materials on the Work Group for quick retrieval. When LAES released its instructional materials through OTAN, subscribers used Email or the Exchange to pose questions or post comments for the developers and other users of the materials; and

- The California Email Project is a Web site that OTAN hosts which features different samples of adult ESL student writing (personal stories, recipes, etc.) from classes around the world. In addition to providing Web server space, OTAN staff have provided many hours of technical assistance to construct, maintain, and improve the site.

Summary

OTAN's staff have provided training and technical assistance that have been instrumental in enabling subscribers to feel comfortable with the use of technology and to become facile in accessing the various services and materials that comprise OTAN. A key characteristic of OTAN's assistance has been the willingness of OTAN's staff to explain the technical aspects of OTAN's system and their availability in assisting subscribers in solving their technology-related problems. Not only have OTAN's staff provided guidance related to the use of OTAN, they also have aided local adult education program staff in setting up computer systems and addressing general computer-use issues.

To reach the variety of adult education programs located throughout the state, OTAN's staff have traveled to various locations, provided training at the Regional Resources Centers, and arranged for training at local adult education programs. As reported in Abt Associates' survey of OTAN users, their participation in training and receipt of technical assistance has influenced their high use of the OTAN system.

OTAN also has facilitated the work of special projects supported by the California Department of Education's Education Support System Division (formerly the Adult Education Educational Options and Safe Schools' Division). These special projects have linked members of service provider groups, such as the library system, and have facilitated the work of curricular development projects. In this way, OTAN has helped individuals as well as groups of individuals involved in development and assistance projects.

V. Conclusions and Future Directions

This evaluation examined four aspects of the operation of OTAN: 1) the quantity and perceived quality of the services and materials that OTAN has produced; 2) the ways in which staff in local adult education agencies have utilized OTAN; 3) the effects of OTAN's services on adult education program operations, staff, and policy development, and 4) the ways in which OTAN's experience can inform further development of online services and products. The conclusions drawn from the evaluation are discussed in the contexts of the main components of service carried out by OTAN--electronic communication, information and referral services, and instructional technology.

For the past decade, OTAN's staff have implemented an electronic communication network that initially was intended for use by adult education administrators, instructors, program staff, state policymakers, and researchers in California and which became available to adult educators worldwide. The California Department of Education's primary goal in supporting the development of OTAN was to provide a mechanism whereby adult educators in the state could share information, practices, and perspectives electronically to assist them in providing quality services. OTAN has met this goal though its iterative development of an electronic infrastructure for communicating, storing, and retrieving information. As the state of technology has advanced, OTAN has extended its system to incorporate new tools and information that have enabled the system to move beyond its original intent. Discussed below are our conclusions concerning the use of the OTAN system and possible future directions for OTAN as a state and national resource.

OTAN's Development and Implementation

Phases of Development. OTAN's development has been a phased process that began in 1989. Since its inception, OTAN's activities have helped to transform the state-of-practice in adult education in the state of California from limited or no access to computers for communication and information retrieval to high access. This transformation has occurred in three phases:

- **Building the Foundation: December 1989-January 1994.** During this period, OTAN's staff established an electronic network, provided staff development to local adult education agencies to access and use the network, identified and developed information resources for retrieval from the network, and conducted outreach to promote the use of OTAN among adult educators;

- **Building a Communication and Information System: February 1994-March 1997.** As the number of subscribers and the ways in which they used OTAN increased, OTAN's staff focused on improving the quality of the technical system and the information stored on the system. A number of technical upgrades that staff made during this period resulted in a more powerful and easier-to-use online communication and information system. Some of these upgrades expanded the types of communication that subscribers could undertake, such as the installation of the Email list server software to host online Email discussions as well as software to provide online multimedia content. In addition to the provision of ongoing training and technical assistance, OTAN's staff conducted targeted staff development to expand the capacity of key system users, such as adult education agency administrators and Regional Resource Center managers. The expansion of the library of online materials continued as did the establishment of linkages with other online systems. To enable local agencies to be more systematic in their use of technology, OTAN offered technology planning and implementation workshops to adult education providers.

- **Enhancing the OTAN System: April 1997-June 1999.** During this period, OTAN's staff made a number of changes in the system to respond to state policy shifts as well as subscribers' needs. OTAN continued to improve the communication and information system, provided additional training and technical assistance, further enhanced the information and reference services, and offered outreach and assistance to support technology planning. Shifts in state policy prompted OTAN to adjust the electronic communication system in three ways: 1) to provide free email accounts to agencies receiving state adult education monies; 2) to transition out of the business of providing both Internet access and Email, because of the increased number of OTAN subscribers who no longer relied on OTAN for accessing Email; and 3) to refine OTAN's Web site to include all components of service. Other new developments during this period included the piloting of online staff development in conjunction with the state's staff development provider, the development of multimedia programs, and the expansion of partnership with entities such as CNN to provide online adult learner instruction. In January 1999, OTAN's released the redesigned Web site. In addition to the no-cost registration feature, it has an online User Guide to assist inexperienced visitors, a Java-based pull-down menu system, a new home page, a redesigned Round Table area, and an expanded area called "OTAN For Teachers."

These phases of development represented a systematic approach to the creation of an online communication system that was responsive to users' needs as well as incorporated the latest developments in technology. During each grant period, OTAN's staff assessed the ways in which the system could be improved technologically as well as substantively and made the adjustments accordingly. The vision of OTAN's director and staff enabled the system to keep pace with new developments without becoming too advanced for its intended users.

Technical Assistance and Training. A critical element in the development of OTAN has been the training and technical assistance that staff created to support the dissemination of the system and encourage its use. The assistance that OTAN provided not only enabled local adult education program staff to become familiar with the online system and its capabilities, but also played a critical role in building the capacity of these staff to use computers. OTAN's staff leveraged their training and technical assistance expertise by working with the Regional Resource Centers to deliver assistance to the adult education programs in their regions. OTAN's staff also collaborated with these programs in hosting training sessions that

OTAN developed. As a result of this systematic approach to capacity building, the staff from OTAN and the Regional Resource Centers delivered training to approximately 20,000 individuals during each of the three OTAN grant periods. As more adult educators became familiar with OTAN, the number of technical assistance calls addressed by OTAN's staff increased such that during the third contract period, the staff responded to more than 25,000 calls and reference inquires over this two-year period.

Implementing and Using OTAN. As a result of OTAN's training and technical assistance activities, its subscriber base grew substantially over the three grant periods. By 1999, OTAN had over 2,000 subscribers. A variety of factors influenced this growth, including the California Department of Education's requirement that each grantee receiving state Section 321 funding obtain an OTAN account, as well as the numerous dissemination activities that OTAN's staff conducted. In this evaluation, the OTAN subscribers whom we surveyed and interviewed expressed high satisfaction with the training and technical assistance they received as well as with the resources they were able to access. The key barriers to use were the quality of the local technology and subscribers' time to use the system.

OTAN's primary goal was to establish a communication systems that would link all stakeholders in the state's adult education system. Our evaluation data substantiate OTAN's achievement of this goal, particularly with regard to subscribers' exchange of information concerning administrative and compliance issues. The California Department of Education has facilitated this exchange by increasingly using OTAN to communicate with its grantees and to process materials, such as the approval of courses and the applications for state funding. OTAN has become the platform for information on key issues affecting the operation of state-funded adult education agencies.

As OTAN expanded its services, it's role in promoting program improvement developed. In addition to posting course outlines and lesson plans created by California adult educators as well as research and library documents, OTAN became the gateway to instructional information available on the Internet. With the redesign of OTAN's Web site in 1999, general resources as well as those targeted to teachers were better organized and more accessible to subscribers. By 1999, OTAN contained approximately 20,000 resource documents. To promote subscribers' use of these resources, OTAN's staff have highlighted on the Web site key resources and activities both within state and nationally that can assist program staff in developing and delivering quality instruction.

While OTAN has great potential as a vehicle to support program improvement, this potential is still developing. In our interviews with program administrators, we found that many were involved in program improvement activities and had accessed OTAN's resources to assist them. They also had used OTAN's various communication vehicles to obtain assistance from colleagues and share information. Teachers' use of OTAN for improvement purposes, however, was less prominent. While many teachers are self-motivated and have incorporated OTAN's resources as a matter of practice, others may need external direction to prompt their use.

As a communication and information platform, OTAN has provided both resources and mechanisms for exchange among adult educators. The staff also have linked California's adult educators to resources nationally to encourage the implementation of the best possible adult education services in the state. While OTAN can play a critical role in facilitating quality practice among adult educators, staff from the State Department of Education and local adult schools also need to be instrumental in fostering program improvement and OTAN's use in this process.

Future Directions

The California Department of Education broke new ground in funding OTAN and it has been a unique service in the field of adult education. OTAN also served as a model for the National Institute of Literacy's development of LINCS--the Literacy Information aNd Communication System. At this stage of adult education policy and practice in California and nationally, OTAN has potential in serving two key roles: as a platform to furthering the use of technology and as a gateway to adult education resources worldwide.

Platform for Furthering the Use of Technology. OTAN has functioned as an information dissemination and communication base in addressing the needs of the California Department of Education and state-funded adult education programs. As these needs expand and as new developments in technology come online, OTAN has a key role in the following:

- Expanding its services in facilitating the California Department of Education's accountability and grants administration activities. As state-funded adult education programs submit their accountability data online, OTAN could promote the local use of these data for program management and improvement. By expanding its online training activities, OTAN could provide simulation exercises in using data that local program staff could access. OTAN also could stimulate subscribers' exchange of information concerning the ways in which student data and other program information could be analyzed and used for program purposes. As the California Department of Education revises and enhances its grants management processes, OTAN has a key role in disseminating this information and serving as a mechanism for data collection; and

- Disseminating new technology products funded by the U.S. Department of Education (ED). OTAN has been a collaborating partner in the development of the U.S. Department of Education-supported Cyberstep project. This project is one of three cutting-edge developments in online instruction, staff development, and assessment that ED has funded and which will be ready for national dissemination this year. As these products become available, there is a need to orient the field of adult education as to the ways in which these products can be incorporated into ongoing program services. OTAN is well-suited to serve as a platform for orienting adult education practitioners to the use of these products, as well as to linking practitioners to other resources that could support their implementation.

Gateway to Adult Education Resources. OTAN has a unique role to play in directing subscribers to the myriad of resources that can be accessed through its system. One critical use of these resources is in facilitating the delivery of quality adult education services. Two recommendations for OTAN's role in program improvement are:

- Revise the format for the submission of lesson plans to include sections regarding the teacher's theory or guiding principles and related instructional materials. The inclusion of information about the theory or principles will help others to understand the developer's instructional perspective in creating the lesson and how it might be applied. Information about related materials will guide others in selecting appropriate resources and applications that match the intent of the lesson; and
- Use a problem-based method to stimulate adult education practitioners' improvement of practice. Abt Associates' work with the statewide program improvement initiative in Pennsylvania--Project EQuAL--demonstrated that adult education teachers and program administrators are motivated to address the operational problems that impede their delivery of quality program services. Using the problem identification process as a stimulant, staff are able to analyze information and use resources to try new practices. OTAN could adapt the problem-based technique by posting common problems that adult education practitioners face in managing and teaching as a way of engaging practitioners in program improvement. OTAN subscribers could be directed to the appropriate online resources and documents that relate to the problems that are posted. While many documents are not written to provide direct solutions to program issues, the information in the documents would stimulate ideas and new directions. Through OTAN's Exchange and Chats functions, subscribers could share their solutions and suggest new practices. This process could serve as a starting point for adult education programs to use in addressing their operational issues.

These recommendations are illustrative of the potential that OTAN has for enhancing its activities in facilitating communication and program improvement. OTAN has a critical function in disseminating information from the California Department of Education and in facilitating the state's grants management process. Its role in obtaining documents and library resources also is expanding from a retrieval and storage function to a linking function. As a platform for technology, OTAN can direct subscribers to effective use and application of existing and new technological tools. As a gateway to information, it can guide subscribers in making informed choices regarding the variety of resources that are available to adult educators worldwide.

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Appendix A

Copies of the User Survey (1997-1998), Non-user Survey (1997-1998), and User Survey (1999)

OTAN ONLINE/WWW SURVEY

Name of Person Completing Survey: ______________________ User ID: ________

Name of Agency/Organization: ____

Type of Agency/Organization: (Please check one.)

☐ K-12 Adult
☐ University
☐ Library
☐ Community College
☐ County Office of Education
☐ ROP
☐ Community Based Organization
☐ Workplace Development Program
☐ Other

Address: ____

City: ___________________ State: __________________ Zip: ___________

Telephone: ____________________

I. GENERAL INFORMATION

1. Which category is the closest match to your job description? (Check one.)

☐ LEA/CBO Administrator
☐ Classroom Teacher
☐ Resource Teacher/Coordinator
☐ Clerical or Other Support Staff
☐ State/Federal/Other

2. If you are a Classroom Teacher or Resource Teacher/Coordinator in adult education, please check the area in which you work:

☐ ABE/literacy
☐ ESL
☐ Pre-GED
☐ GED/High School Completion
☐ Other Adult Education
☐ Citizenship
☐ Family Literacy
☐ Vocational Education
☐ ROP
☐ Other (please list: ______________
________________________)

3a. How many hours per week do you work at your agency? ________ hours

3b. Is your job considered: ☐ part-time ☐ full-time

4. Do you use (please check one):

☐ OTAN Online
☐ OTAN World Wide Web (WWW) Site
☐ Both

5. In what year did you begin using OTAN Online/WWW? 19______

6. Please check the category that best describes the use of OTAN Online/WWW at your site:

☐ I use it exclusively.
☐ I use it on behalf of another person.
(Please check: __ supervisor __ colleague __other).
☐ This is a shared ID with use by several staff members at my agency.
☐ This is an ID that allows open use by educators in my region, i.e., Regional Resource Centers.
☐ Other (Please list:____)

7. Please select who provides you with Internet access:

☐ OTAN
☐ District
☐ County
☐ Private account (List name of provider:______________________________)

8a. Do you have your own email in addition to OTAN's e-mail? ☐ Yes ☐ No

8b. Do you use OTAN's email? ☐ Yes ☐ No

If you answered yes above, please check how often you use it:

☐ More than once a day
☐ Once a day
☐ More than once a week
☐ Once a week
☐ Once or twice per month
☐ Less than once per month

II. TRAINING, TECHNICAL ASSISTANCE, AND SUPPORT SERVICES

9. Have you ever used the technical assistance provided by OTAN? ☐ Yes ☐ No

If yes, please check the methods that you have used to receive technical assistance and your level of satisfaction as defined in the Legend below:

Legend: VS=Very Satisfied S=Satisfied N=Neutral D=Dissatisfied
VD=Very Dissatisfied

(If you don't use a method, please check "DU" at the end of each row.)

OTAN Online Users Guide:	☐ VS	☐ S	☐ N	☐ D	☐ VD	☐ DU
OTAN Online Newsletter:	☐ VS	☐ S	☐ N	☐ D	☐ VD	☐ DU
Workshops and Conferences:	☐ VS	☐ S	☐ N	☐ D	☐ VD	☐ DU
OTAN Presentations:	☐ VS	☐ S	☐ N	☐ D	☐ VD	☐ DU
OTAN's Toll Free Phone Support:	☐ VS	☐ S	☐ N	☐ D	☐ VD	☐ DU
OTAN's Electronic Support Form:	☐ VS	☐ S	☐ N	☐ D	☐ VD	☐ DU
Email Message to Support Area:	☐ VS	☐ S	☐ N	☐ D	☐ VD	☐ DU
OTAN's WWW Help Desk:	☐ VS	☐ S	☐ N	☐ D	☐ VD	☐ DU

10a. Have you received training to use the OTAN Online communication system or the OTAN World Wide Web (WWW) Site? ☐ Yes ☐ No

10b. If no, why have you not received any training? Please describe.

____

____

____

____

10c. If yes, please check the types of training you have received.

☐ Installation/Setup of OTAN Online
☐ How To Use OTAN Online
☐ How to Use the WWW
☐ How To Use Netscape or Internet Explorer
☐ Distance Learning Web Sites
☐ Education Web Sites
☐ Other (Please describe:______________________________)

10d. Did you find the training helpful? ☐ Yes ☐ No

11a. Which training and technical assistance from the list in Q. 10c have you found to be the most helpful?

____

____

____

____

11b. Please describe why this has been helpful.

____

____

____

____

12. In general, how would you characterize your need for additional training to make full use of the OTAN Online communication system? (Check one.)

☐ I need training to get started using the system.
☐ I need training on the advanced features.
☐ I occasionally need help to solve problems.
☐ I am satisfied with my present level of expertise using the OTAN Online system.

Comments:

____

____

13. Are there any types of training and technical assistance not offered that you would recommend?

____

____

____

____

14. Please indicate how likely you are to participate in the following future OTAN support or training activities if they are available. Check a response for each item as defined in the Legend below.

Legend: VL=Very Likely L=Likely M=Maybe PN=Probably Not N=Definitely Not

Attend OTAN workshops or conferences:	☐ VL	☐ L	☐ M	☐ PN	☐ DN
Attend OTAN Online "hands-on" training sessions at a location in your area:	☐ VL	☐ L	☐ M	☐ PN	☐ DN
Travel to attend OTAN "hands-on" training at a location outside your area:	☐ VL	☐ L	☐ M	☐ PN	☐ DN
Download and print out training handouts and materials from OTAN's Web Site:	☐ VL	☐ L	☐ M	☐ PN	☐ DN
Utilize individualized training and "how-to" tutorials provided on OTAN's Web Site:	☐ VL	☐ L	☐ M	☐ PN	☐ DN

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III. GENERAL USAGE

15. During the program year, how often do you logon to OTAN Online? (Check one.)

☐ Five or more times per week
☐ One to four times per week
☐ One to three times month
☐ Less than once a month
☐ Sporadically--use it every day for a while, then don't go on for weeks or months
☐ Other (Please describe in one sentence.)

____

16. What prompted you to use the OTAN Online communication system? (Check one.)

☐ It was required as part of my agency's 321 funding.
☐ It was offered to me as part of my work in my agency.
☐ I heard about it outside of my agency.
☐ Other (Please describe in one sentence.)

____

17. Which of these OTAN Online areas do you use? (Check all that apply.)

☐ Mailbox
☐ Roundtable (electronic work groups)
☐ News
☐ OTAN Exchange
☐ Conferences
☐ Help

18a. If you checked **MAILBOX** above, please continue. Otherwise, skip to Q. 19.

18b. How easy do you find it to use OTAN Online's ELECTRONIC MAIL?

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult

18c. What are your reasons for using OTAN ELECTRONIC MAIL? (Check all that apply.)

☐ Assist in instruction
☐ Manage staff
☐ Improve staff
☐ Communicate with staff from other programs/agencies
☐ Improve self
☐ Manage program
☐ Improve program
☐ Meet CDE requirements
☐ Work with others on joint project
☐ Other (Describe:____________________
______________________________)

19a. If you checked **ROUNDTABLE**, please continue. Otherwise, skip to Q. 20.

19b. When you logon to OTAN Online, how often do you use ROUNDTABLE?

☐ Everytime
☐ About 75% of the time
☐ About 50% of the time
☐ About 25% of the time
☐ Seldom

19c. How easy do you find it to use OTAN Online's ROUNDTABLE?

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult

19d. Which ROUNDTABLE work groups have you participated in? (Check all that apply.)

☐ AD ED Leadership
☐ CASAS National Consortium
☐ CDLP Advisory
☐ CA Library Literacy
☐ Learning Net
☐ Oregon (OCABSD)
☐ SCLLN
☐ Adult Email projects
☐ CCC
☐ Consortium of Adult Education
☐ GLADLI
☐ Nevada Literacy
☐ OTAN Exchange
☐ SLRC
☐ CAROLP
☐ CDC Project
☐ Distance Learning
☐ LAES
☐ NIFL Hub IV
☐ RTD Project

19e. What are your reasons for using OTAN ROUNDTABLE? (Check all that apply.)

☐ Assist in instruction
☐ Manage staff
☐ Improve staff
☐ Communicate with staff from other programs/agencies
☐ Improve self
☐ Manager program
☐ Improve program
☐ Meet CDE requirements
☐ Work with others on joint project
☐ Other (Describe:__________________
__________________________________)

20a. If you checked **CONFERENCES/EMAIL LISTSERVs**, please continue. Otherwise, skip to Q. 21.

20b. When you logon to OTAN Online, how often do you use CONFERENCES/EMAIL LIST SERVs?

☐ Everytime
☐ About 75% of the time
☐ About 50% of the time
☐ About 25% of the time
☐ Seldom

20c. How easy do you find it to use OTAN Online's Conferences/Email LISTSERVs?

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult

20d. What are your reasons for using OTAN's Conferences/Email LISTSERVs? (Check all that apply.)

☐ Assist in instruction
☐ Manage staff
☐ Improve program
☐ Work with others on joint project
☐ Improve self
☐ Manage program
☐ Improve program
☐ Communicate with staff from other programs/agencies
☐ Other (Describe:________________
______________________________)

20e. Please indicate how often you participate in the following LISTSERVs.

D= Daily W=Weekly M=Monthly LM=Less than monthly
R=Rarely N=Never

Adult Ed Network:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
Adult Literacy List:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
Adult Numeracy:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
Alternative Learning:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
CATESOL Jobs:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
DEOS-L:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
DEOS News:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
Edinfo:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
Education Style:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
Edupage:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
NIFL:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
National Lit. Alliance:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
NWAC:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
Prison Teachers:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
TESL-L:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N
Vocational Net:	☐ D	☐ W	☐ M	☐ LM	☐ R	☐ N

21a. In general, how satisfied are you with the OTAN Online services? (Check one.)

☐ Very Satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐ Very Dissatisfied

21b. If you are **satisfied**, please describe the most important way in which the Online services meet your needs.

____

____

____

____

21c. If you are **dissatisfied**, please describe one way in which the Online services might better meet your needs.

____

____

____

____

22. Which of these OTAN WWW areas do you use? (Check all that apply.)

☐ OTAN Forum
☐ Customer Services
☐ Local Education Agencies
☐ NIFL Region IV Hub
☐ Search OTAN Forum
☐ OTAN Partners
☐ Online Resources
☐ Distance Learning Project

IF YOU DON'T USE THE OTAN FORUM, SKIP TO Q. 36.

23. If you use the **MASTER CALENDAR**, please evaluate the ease of use; if not, check "Don't Use."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Don't Use

24. If you use **WHO's WHO**, please evaluate the ease of use; if not, check "Don't Use."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Don't Use

25a. If you use **CDE INFORMATION**, please evaluate the ease of use; if not, check "Don't Use."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Don't Use

25b. If you use CDE Information, what are your reasons? (Check all that apply.)

☐ Manage program
☐ Improve program
☐ Meet CDE requirements
☐ Manage staff
☐ Improve staff
☐ Other (Describe:____________________
____________________)

. 26a. If you use the **REGIONAL RESOURCE CENTERS**, please evaluate the ease of use; if not, check "Don't Use."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Don't Use

26b. If you use the Regional Resource Centers, what are your reasons? (Check all that apply.)

☐ Assist in instruction
☐ Manage staff
☐ Improve staff
☐ Manage program
☐ Improve program
☐ Meet CDE requirements

☐ Work with others on joint project ☐ Improve self
☐ Other (Describe:______________________________________)

27a. If you use **DOCUMENT LIBRARY**, please evaluate the ease of use; if not, check "Don't Use."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Don't Use

27b. If you use the Document Library, what are your reasons? (Check all that apply.)

☐ Assist in instruction
☐ Manage staff
☐ Improve staff
☐ Work with others on joint project
☐ Other (Describe:______________________________________)
☐ Manage program
☐ Improve program
☐ Meet CDE requirements
☐ Improve self

28a. If you use **CURRICULA RESOURCES**, please evaluate the ease of use; if not, check "Don't Use."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Don't Use

28b. If you use Curricula Resources, what are your reasons? (Check all that apply.)

☐ Assist in instruction
☐ Improve staff
☐ Work with others on joint project
☐ Other (Describe:______________________________________)
☐ Improve program
☐ Meet CDE requirements
☐ Improve self

29a. If you use **COURSE OUTLINES**, please evaluate the ease of use; if not, check "Don't Use."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Don't Use

29b. If you use Course Outlines, what are your reasons? (Check all that apply.)

☐ Assist in instruction
☐ Improve staff
☐ Work with others on joint project
☐ Other (Describe:______________________________________)
☐ Improve program
☐ Meet CDE requirements
☐ Improve self

30a. If you use **LESSON PLANS**, please evaluate the ease of use; if not, check "Don't Use."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Don't Use

30b. If you use Lesson Plans, what are your reasons? (Check all that apply.)

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☐ Assist in instruction
☐ Improve staff
☐ Work with others on joint project
☐ Improve program
☐ Meet CDE requirements
☐ Improve self
☐ Other (Describe:____)

31a. If you use **REFERENCE LIBRARIES**, please evaluate the ease of use; if not, check "Don't Use."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Don't Use

31b. If you use Reference Libraries, what are your reasons? (Check all that apply.)

☐ Assist in instruction
☐ Manage staff
☐ Improve staff
☐ Improve self
☐ Manage program
☐ Improve program
☐ Work with others on joint project
☐ Other (Describe:________________
________________________________)

32. If you use **LEGISLATIVE INFORMATION**, please evaluate the ease of use; if not, check "Don't Use."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Don't Use

33. If you use **CODES AND REGULATIONS**, please evaluate the ease of use; if not, check "Don't Use."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Don't Use

34. If you use **EDUCATIONAL GRANTS**, please evaluate the ease of use; if not, check "Don't Use."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Don't Use

35. When you access the OTAN Forum, do you use the following search features? If yes, check "Use" and indicate your level of satisfaction; if no, check "Don't Use."

Keyword: ☐ Use ☐ Don't Use
☐ Very Satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐ Very Dissatisfied
Specific Searches: ☐ Use ☐ Don't Use
☐ Very Satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐ Very Dissatisfied
By-Date Search: ☐ Use ☐ Don't Use
☐ Very Satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐ Very Dissatisfied

36a. In general, how satisfied are you with OTAN WWW?

☐ Very Satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐ Very Dissatisfied

36b. If you are **satisfied**, please describe the most important way in which OTAN WWW services meet your needs:

36c. If you are **dissatisfied**, please describe one way in which OTAN WWW services might better meet your needs:

37. Please describe the two most important factors that have facilitated your use of the OTAN Online communication system:

38. Please describe the two most important barriers that you have encountered in using the OTAN Online communication system:

39. As a result of using OTAN, have you undertaken any activities related to your job that you wouldn't have undertaken before using OTAN?

☐ Yes ☐ No

If yes, please describe.

40. Please describe any direct effects that your use of OTAN's services have had on one or more of the following:

a) program administration;
b) instruction;
c) program improvement; and/or
d) staff morale.

THANK YOU FOR COMPLETING THIS SURVEY. PLEASE MAIL YOUR COMPLETED SURVEY TO JUDITH ALAMPRESE IN THE ENCLOSED, STAMPED ENVELOPE NO LATER THAN NOVEMBER 7, 1997.

OTAN NON-USER SURVEY

Name:____

Name of Agency/Organization:____________________________

Address:____

City:______________ State:___________ Zip:___________

1. Which category is the closest match to your job description? (Check one.)
   - ☐ LEA/CBO Administrator
   - ☐ Classroom Teacher
   - ☐ Resource Teacher/Coordinator
   - ☐ Clerical or Other Support Staff
   - ☐ State/Federal/Other

2. In what year did you become an OTAN Online/WWW subscriber? 19____ ☐ Don't Know

3a. Approximately how many times have you ever logged-on to OTAN? _____ times

3b. Approximately how many times have you visited the OTAN web site? _____ times

4. Which of these OTAN Online areas have you ever used? (Check all that apply.)
   - ☐ Mailbox
   - ☐ Roundtable (electronic work groups)
   - ☐ News
   - ☐ None
   - ☐ OTAN Exchange
   - ☐ Conferences
   - ☐ Help

5. List the two most important reasons why you currently do not use the OTAN Online communication system?

____

____

____

____

6. Are there any circumstances under which you would use OTAN? ☐ Yes ☐ No
If yes, please describe.

____

____

____

____

7. What types of information would you find most useful to obtain through OTAN?

____

____

____

____

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OTAN User Survey
Spring 1999

General Information

1a. Please review the contact information on the label and make any corrections here

____

____

____

____

1b. If different than above, please enter the name of the person completing this survey: ____________________

2. Which category is the closest match to your job description?

☐ LEA / CBO / CC Administrator ☐ Clerical or Other Support Staff ☐ State / Federal / Other
☐ Classroom Teacher ☐ Resource Teacher / Coordinator

3. During Fall 1998, how often did you access OTAN's web site?

☐ Five or more times per week ☐ One to four times per week
☐ One to three times per month ☐ Less than once a month
☐ Sporadically (use it every day for a while, then don't go on for weeks or months)

Use of the Redesigned Web Site

4. Please describe your use of OTAN since the redesigned web site design was released in mid-January 1999.

☐ I'm using it more often than I did in Fall 1998. ☐ I'm using it about as often as I did in Fall 1998.
☐ I'm using it less often than I did in Fall 1998. ☐ I haven't used it at all since it was redesigned.

If you haven't used the web site or use it less often, please explain why: ____________________

____

____

____

5a. In the redesigned OTAN, subscribers are encouraged to create detailed User Profiles. Subscribers can chose to include their Profile in the OTAN member directory, which can be used by other subscribers for networking purposes. Also, the Profiles will be used to develop a "smart" web site that is customized to reflect individual users' interests. Please check one of the following:

☐ I created a User Profile and made my information accessible to the OTAN member directory.
☐ I created a User Profile but chose NOT to include it in the OTAN member directory for the following reason(s): ____________________
☐ I have not created a User Profile for the following reason(s): ____________________

Thank you for your participation! Please return this survey as soon as possible in the enclosed envelope.

5b. Have you used the Advanced Directory search to look up User Profiles by county, department, or job category?
☐ Yes, and I plan to use it again.
☐ Yes, but I probably won't use it again.
☐ No, but I plan to use it in the future
☐ No, and I don't plan to use it in the future.

If yes, how did you use this information? ____________________

____

5c. Would you like to be able to search other subscribers' User Profiles by the subject areas they are interested in?
☐ Yes ☐ No

If yes, how would you use this information? ____________________

____

6. OTAN's Menu bar on the left-hand side of the screen (with red background and white lettering) was redesigned. In general, how easy is it to navigate OTAN's web site through using the redesigned Menu bar?
☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult

If you thought the Menu bar was "Difficult" or "Very Difficult" to use, please explain why: ____________________

____

____

____

7a. The "News" is now accessed from the Members home page, in the upper right-hand corner. Included in the News are a wide variety of alerts such as funding opportunities, survey and report notices, meetings and conferences, and policy input requests. Would you like News items to be emailed directly to your preferred address?
☐ Yes ☐ No

Comments: ____________________

____

7b. Would you like News items to flash on the web page as they did on OTAN Online?
☐ Yes ☐ No

Comments: ____________________

____

8a. Information in the OTAN Forum is constantly updated, and several sections have been extensively modified and/or improved with database technology. Below, please check the sections of the Forum you find useful.
☐ CDE Info
☐ Educational Grants
☐ CA Adult Ed History
☐ Master Calendar
☐ For Teachers
☐ CA Adult Ed Products
☐ Legislative Information
☐ Document Library
☐ Codes and Regulations
☐ Who's Who
☐ Reference Libraries
☐ Presentations

OTAN User Survey
Spring 1999

8b. Please suggest how any of these Forum areas from 8a could be improved to be more useful to you: ______

9. The Round Table area also was redesigned. If you've used the redesigned Round Table area, please evaluate the ease of use; if not, check "Haven't Used It."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Haven't Used It

If you thought the Round Table area was "Difficult" or "Very Difficult" to use, or haven't used it, explain why:

10. To help users navigate the redesigned web site, OTAN developed an online User Guide. If you've used the new User Guide, please evaluate the ease of use; if not, check "Haven't Used It."

☐ Very Easy ☐ Easy ☐ Average ☐ Difficult ☐ Very Difficult ☐ Haven't Used It

If you thought the User Guide was "Difficult" or "Very Difficult" to use, or haven't used it, explain why:

11. In general, how satisfied are you with the redesigned OTAN web site?

☐ Very Satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐ Very Dissatisfied

Comments: ______

OTAN User Survey
Spring 1999

Applications of OTAN

12. We are interested in learning about how you've used OTAN's information and communication tools as resources for program improvement. Below, please give specific examples of how you've used OTAN to help accomplish any of the following activities: (a) Developing/revising curricula or identifying teaching materials; (b) Providing staff development or enhancing your own skills; (c) Improving program management (e.g., revising policies, pursuing funding opportunities, etc.); and (d) Teaching learners. *(If necessary, continue on the reverse side or attach additional sheets.)*

(a) Developing/revising curricula or identifying teaching materials: ______________________

(b) Providing staff development or enhancing your own skills: ______________________

(c) Improving program management (e.g., revising policies, pursuing funding opportunities, etc.): __________

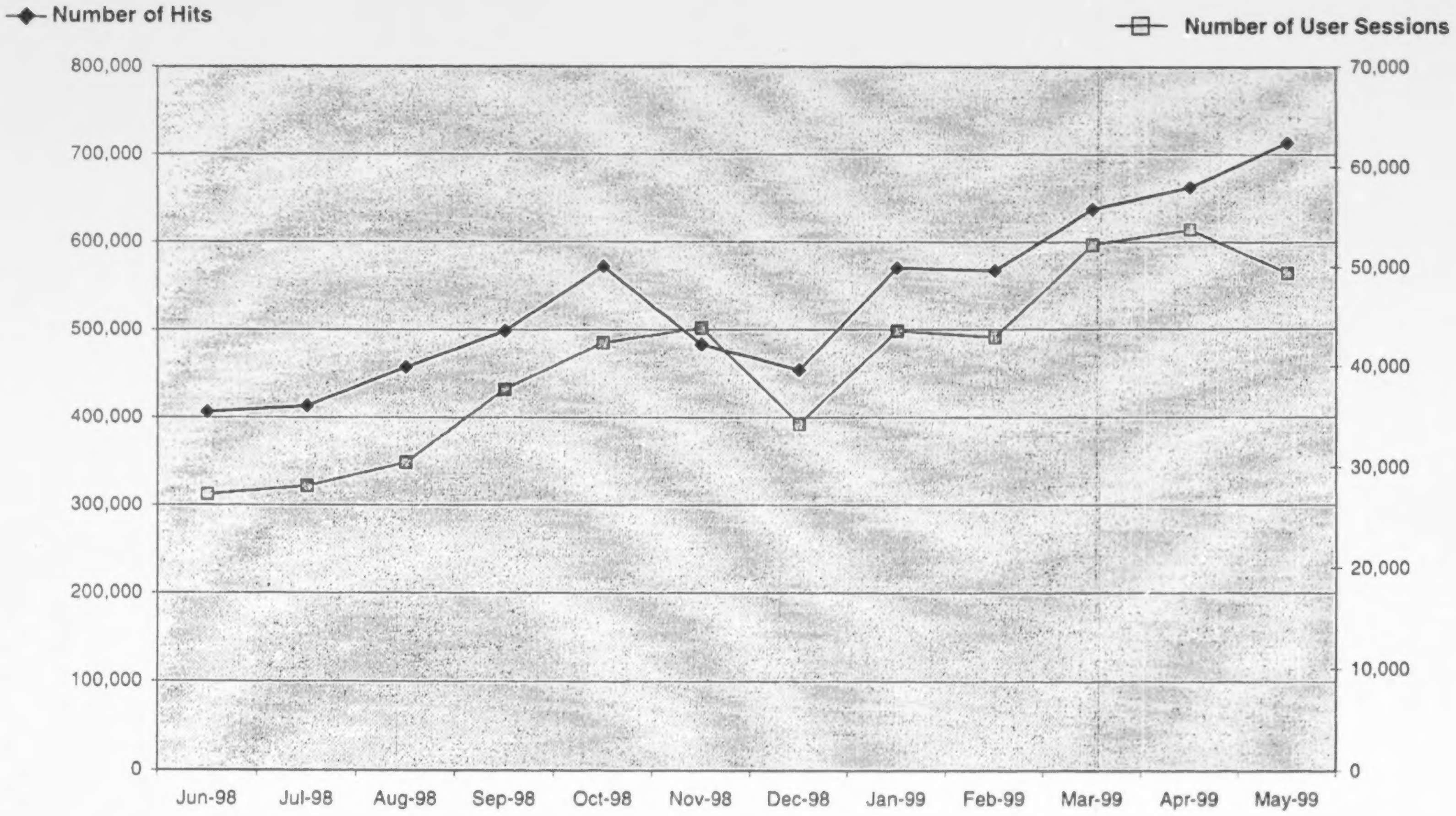
(d) Teaching learners: ______________________

Thank you for your participation! Please return this survey as soon as possible in the enclosed envelope.

Appendix B

Graphs depicting use of the OTAN Website

Exhibit B-1: Total Numbers of Hits and User Sessions *
June 1998 - May 1999



	Jun-98	Jul-98	Aug-98	Sep-98	Oct-98	Nov-98	Dec-98	Jan-99	Feb-99	Mar-99	Apr-99	May-99
◆ Hits	406,627	413,048	457,223	498,621	571,588	483,382	453,952	570,394	567,337	636,944	662,051	713,679
☐ Sessions	27,362	28,196	30,537	37,811	42,476	43,928	34,359	43,602	42,942	52,240	53,750	49,445

* A **Hit** is an action on the Web site, such as when a user views a page or downloads a file.
A **User Session** is a session of activity (all hits) for one visitor to the Web site. By default, a user session is terminated when a user falls inactive for more than 30 minutes.

Source: WebTrends Reports, June 1998 - May 1999

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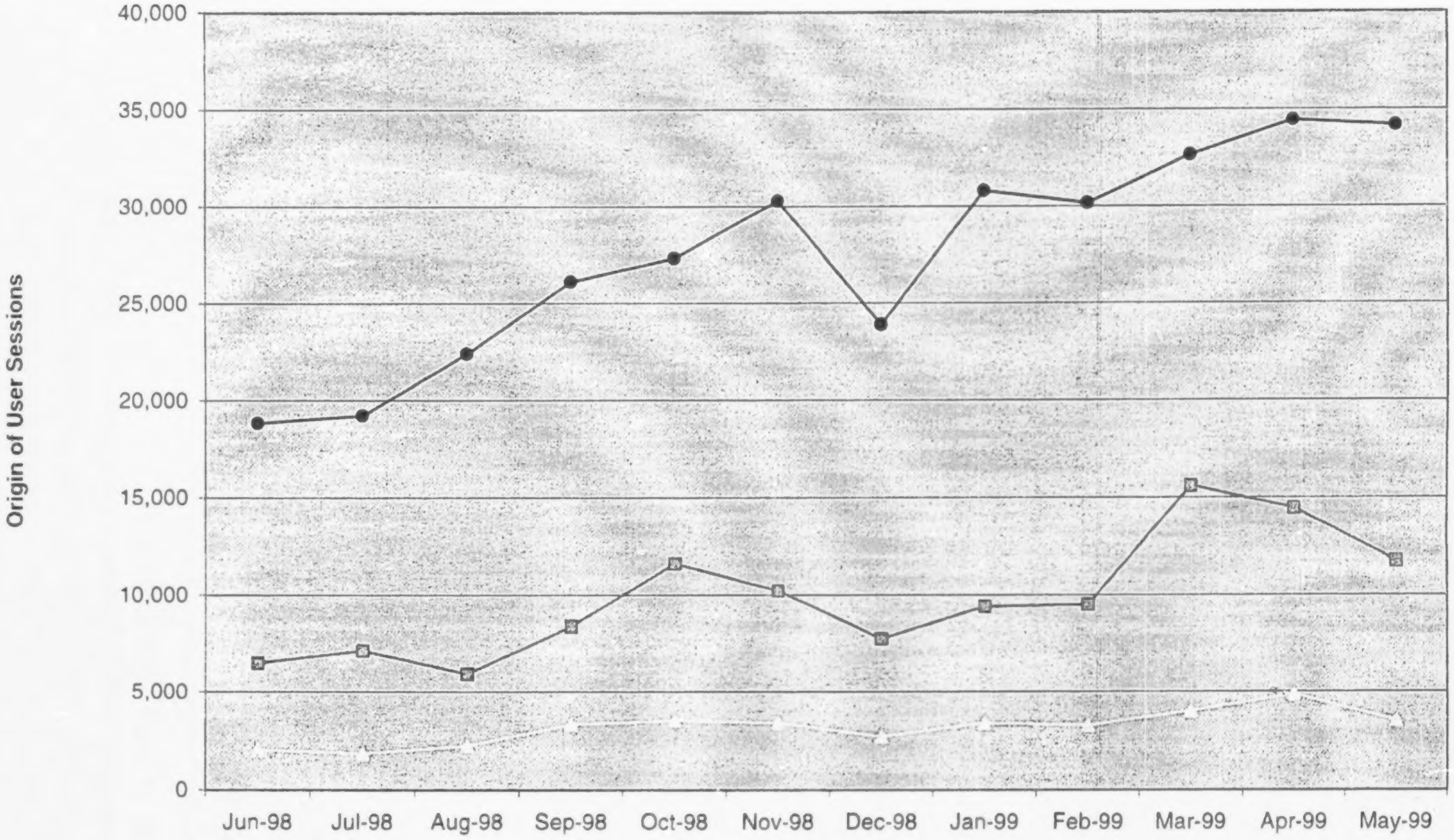
Exhibit B-2: Geographical Origin of User Sessions
June 1998 - May 1999



	Jun-98	Jul-98	Aug-98	Sep-98	Oct-98	Nov-98	Dec-98	Jan-99	Feb-99	Mar-99	Apr-99	May-99
● United States	18,815	19,215	22,373	26,102	27,323	30,292	23,878	30,812	30,167	32,631	34,422	34,156
International	2,048	1,839	2,236	3,321	3,536	3,411	2,715	3,393	3,265	4,008	4,866	3,528
▨ Unknown	6,499	7,142	5,928	8,388	11,617	10,225	7,766	9,397	9,510	15,601	14,462	11,761

Source: WebTrends Reports, June 1998 - May 1999

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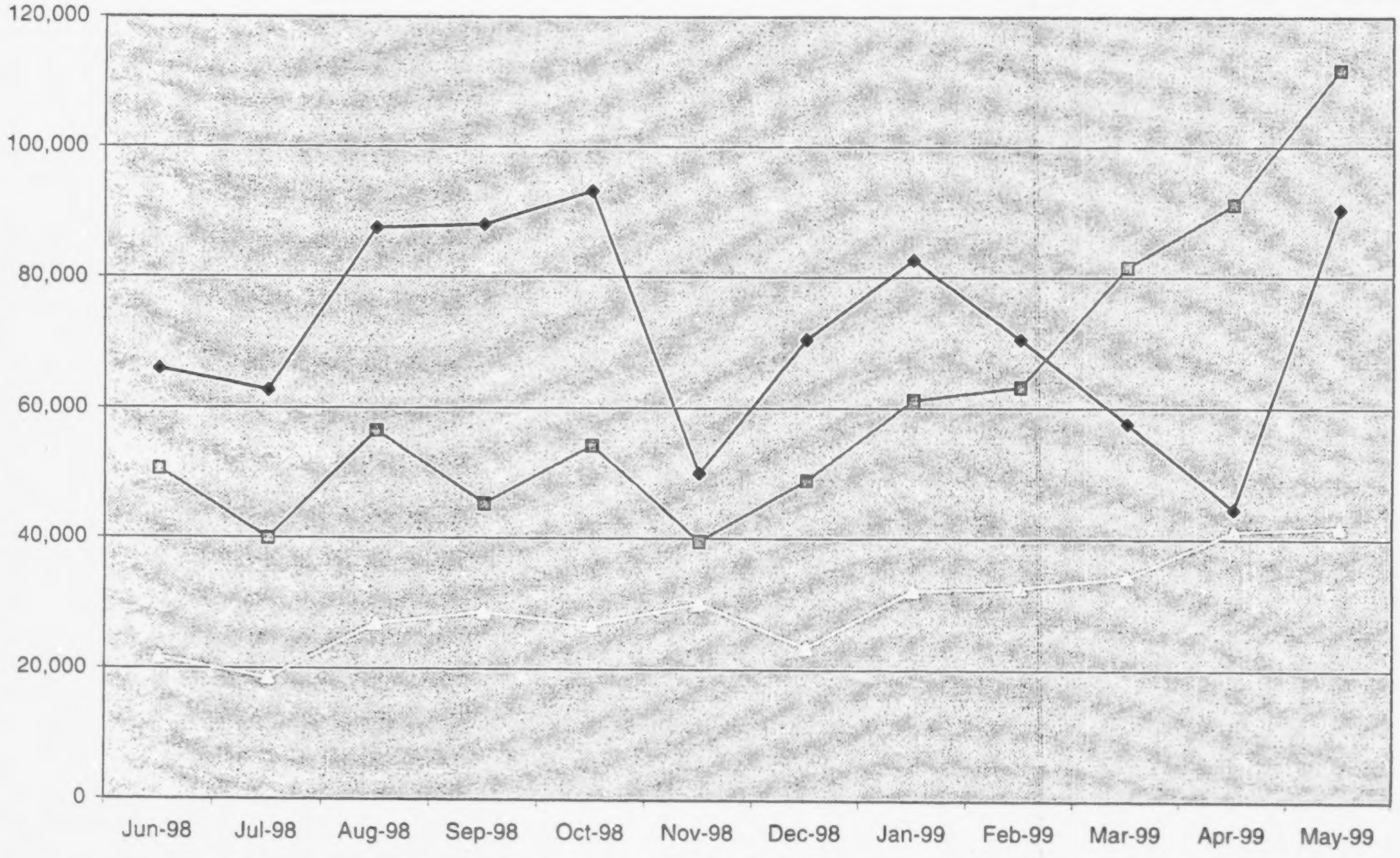
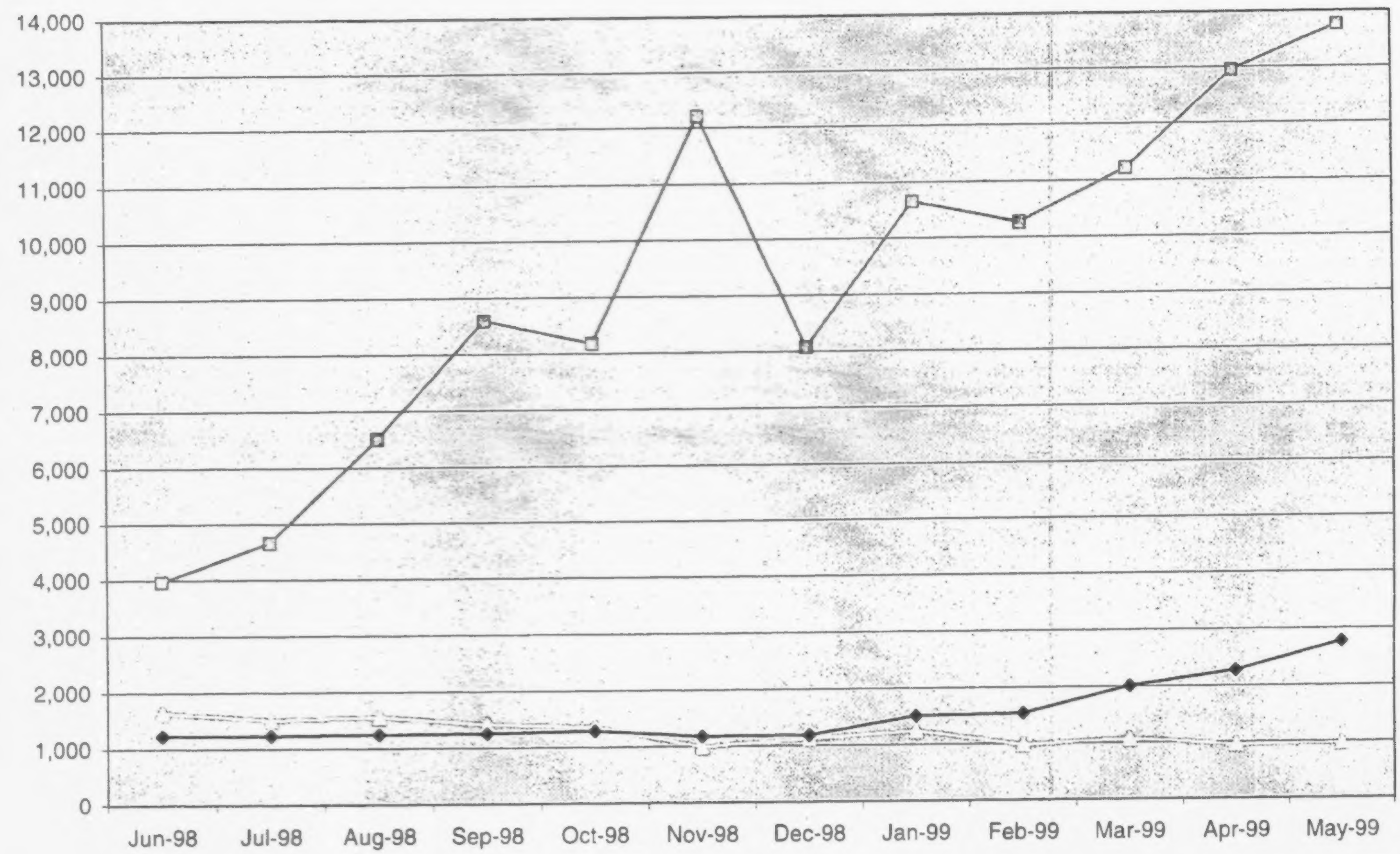
Exhibit B-3: Number of Hits Recorded by the Three Most Active Providers
June 1998 - May 1999



	Jun-98	Jul-98	Aug-98	Sep-98	Oct-98	Nov-98	Dec-98	Jan-99	Feb-99	Mar-99	Apr-99	May-99
◆ otan.dni.us	65,986	62,685	87,456	88,008	93,121	50,023	70,487	82,638	70,532	57,677	44,583	90,319
▣ k12.ca.us	50,596	39,896	56,506	45,292	54,246	39,593	48,872	61,267	63,263	81,528	91,083	111,882
aol.com	21,746	18,507	26,938	28,643	26,771	30,048	23,442	32,132	32,605	34,258	41,216	41,833

Source: WebTrends Reports, June 1998 - May 1999

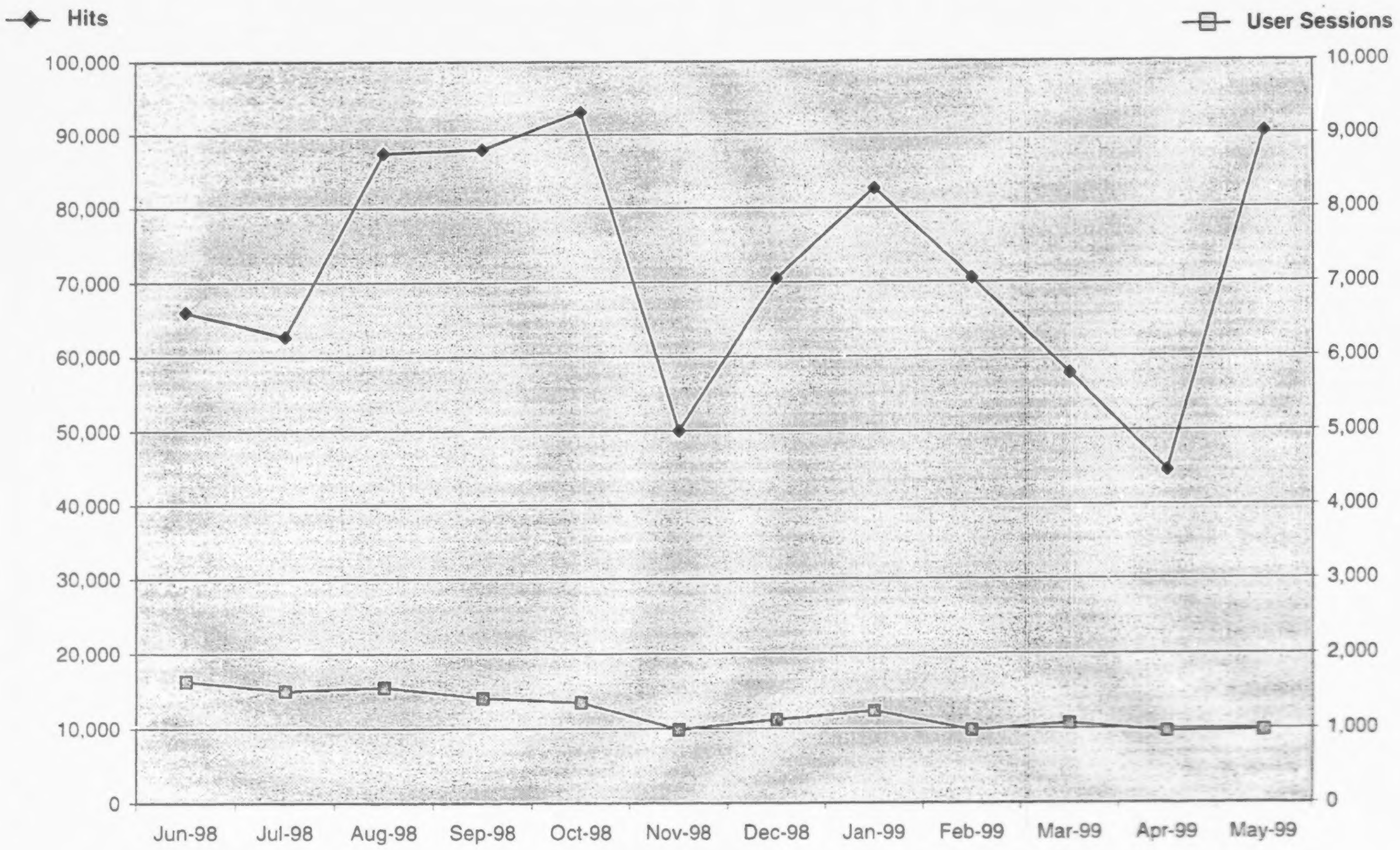
Exhibit B-4: Number of User Sessions Recorded by the Three Most Active Providers
June 1998 - May 1999



	Jun-98	Jul-98	Aug-98	Sep-98	Oct-98	Nov-98	Dec-98	Jan-99	Feb-99	Mar-99	Apr-99	May-99
otan.dni.us	1,635	1,504	1,552	1,411	1,351	989	1,121	1,237	977	1,067	959	978
◆ k12.ca.us	1,225	1,225	1,241	1,251	1,283	1,174	1,184	1,503	1,534	2,008	2,271	2,768
□ aol.com	3,967	4,664	6,507	8,595	8,176	12,216	8,072	10,647	10,268	11,217	12,947	13,756

Source: WebTrends Reports, June 1998 - May 1999

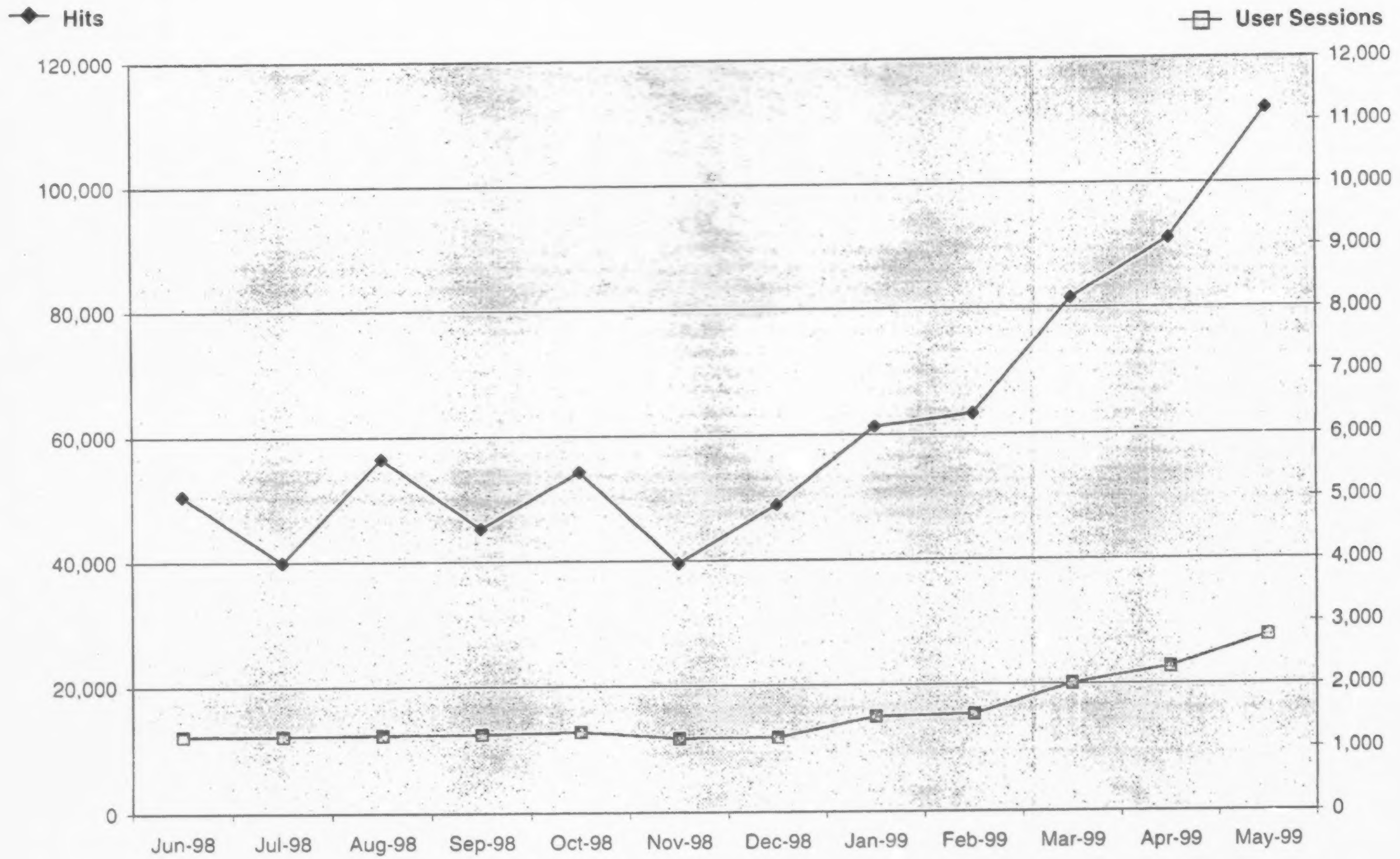
Exhibit B-5: Number of Hits and User Sessions Recorded by otan.dni.us users
June 1998 - May 1999



	Jun-98	Jul-98	Aug-98	Sep-98	Oct-98	Nov-98	Dec-98	Jan-99	Feb-99	Mar-99	Apr-99	May-99
◆ Hits	65,986	62,685	87,456	88,008	93,121	50,023	70,487	82,638	70,532	57,677	44,583	90,319
□ User Sessions	1,635	1,504	1,552	1,411	1,351	989	1,121	1,237	977	1,067	959	978

Source: WebTrends Reports, June 1998 - May 1999

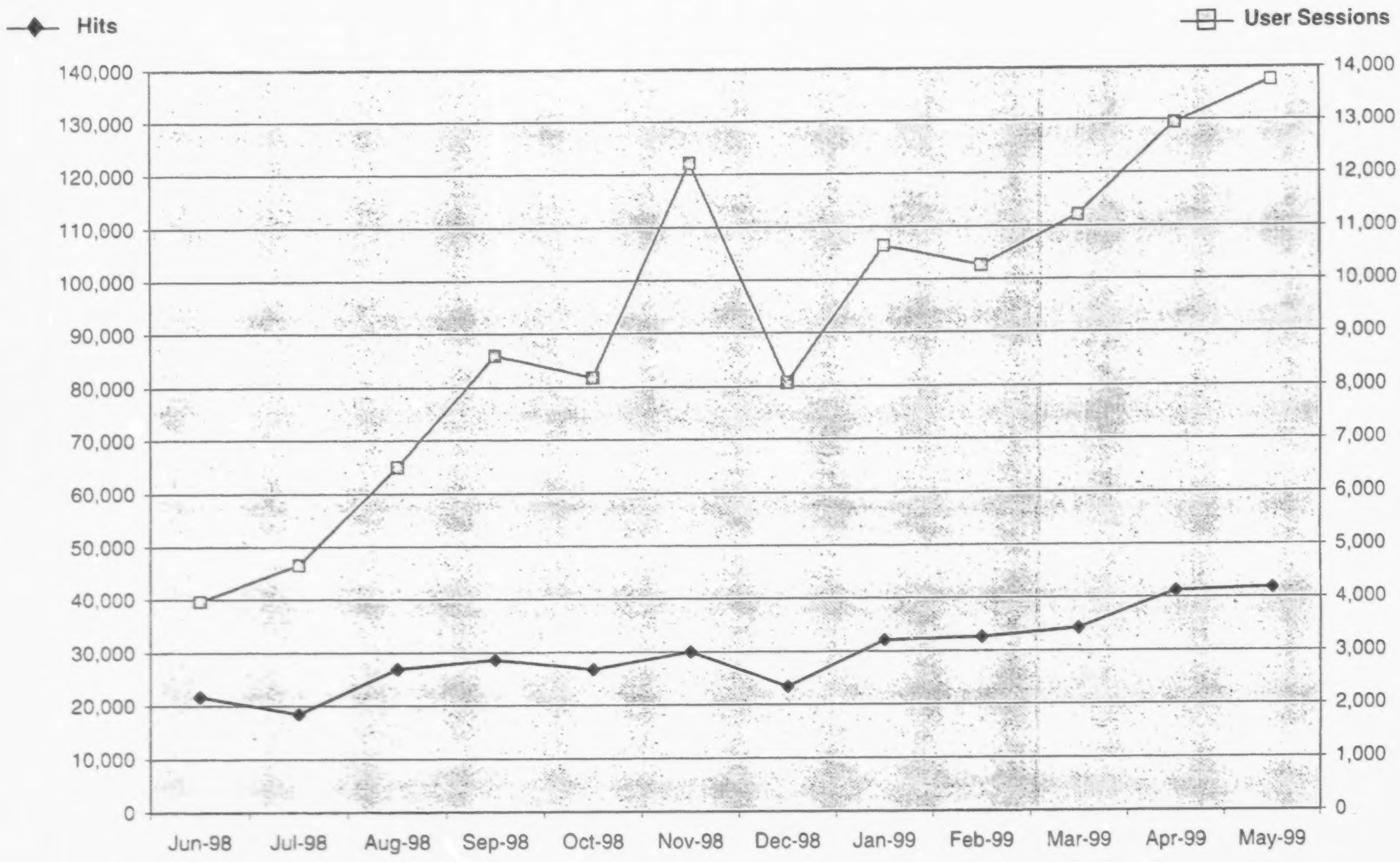
Exhibit B-6: Number of Hits and User Sessions Recorded by k12.ca.us users
June 1998 - May 1999



	Jun-98	Jul-98	Aug-98	Sep-98	Oct-98	Nov-98	Dec-98	Jan-99	Feb-99	Mar-99	Apr-99	May-99
—◆— Hits	50,596	39,896	56,506	45,292	54,246	39,593	48,872	61,267	63,263	81,528	91,083	111,882
—□— User Sessions	1,225	1,225	1,241	1,251	1,283	1,174	1,184	1,503	1,534	2,008	2,271	2,768

Source: WebTrends Reports, June 1998 - May 1999

Exhibit B-7: Number of Hits and User Sessions Recorded by aol.com users
June 1998 - May 1999



	Jun-98	Jul-98	Aug-98	Sep-98	Oct-98	Nov-98	Dec-98	Jan-99	Feb-99	Mar-99	Apr-99	May-99
Hits	21,746	18,507	26,938	28,643	26,771	30,048	23,442	32,132	32,605	34,258	41,216	41,833
User Sessions	3,967	4,664	6,507	8,595	8,176	12,216	8,072	10,647	10,268	11,217	12,947	13,756

Source: WebTrends Reports, June 1998 - May 1999

communication that subscribers could undertake, such as the installation of the Email list server software to host online Email discussions as well as software to provide online multimedia content. In addition to the provision of ongoing training and technical assistance, OTAN's staff conducted targeted staff development to expand the capacity of key system users, such as adult education agency administrators and Regional Resource Center managers. The expansion of the library of online materials continued as did the establishment of linkages with other online systems. To enable local agencies to be more systematic in their use of technology, OTAN offered technology planning and implementation workshops to adult education providers.

- **Enhancing the OTAN System: April 1997-June 1999.** During this period, OTAN's staff made a number of changes in the system to respond to state policy shifts as well as subscribers' needs. OTAN continued to improve the communication and information system, provided additional training and technical assistance, further enhanced the information and reference services, and offered outreach and assistance to support technology planning. Shifts in state policy prompted OTAN to adjust the electronic communication system in three ways: 1) to provide free email accounts to agencies receiving state adult education monies; 2) to transition out of the business of providing both Internet access and Email, because of the increased number of OTAN subscribers who no longer relied on OTAN for accessing Email; and 3) to refine OTAN's Web site to include all components of service. Other new developments during this period included the piloting of online staff development in conjunction with the state's staff development provider, the development of multimedia programs, and the expansion of partnership with entities such as CNN to provide online adult learner instruction. In January 1999, OTAN's released the redesigned Web site. In addition to the no-cost registration feature, it has an online User Guide to assist inexperienced visitors, a Java-based pull-down menu system, a new home page, a redesigned Round Table area, and an expanded area called "OTAN For Teachers."

These phases of development represented a systematic approach to the creation of an online communication system that was responsive to users' needs as well as incorporated the latest developments in technology. During each grant period, OTAN's staff assessed the ways in which the system could be improved technologically as well as substantively and made the adjustments accordingly. The vision of OTAN's director and staff enabled the system to keep pace with new developments without becoming too advanced for its intended users.

Technical Assistance and Training. A critical element in the development of OTAN has been the training and technical assistance that staff created to support the dissemination of the system and encourage its use. The assistance that OTAN provided not only enabled local adult education program staff to become familiar with the online system and its capabilities, but also played a critical role in building the capacity of these staff to use computers. OTAN's staff leveraged their training and technical assistance expertise by working with the Regional Resource Centers to deliver assistance to the adult education programs in their regions. OTAN's staff also collaborated with these programs in hosting training sessions that

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